



PARTS MANUAL

ALEXANDER DENNIS

EURO 3



Trident 

COVERING : 2 - AXLE CHASSIS - EURO 3 MODELS

| | | | |
|---------------|---------------|---------------|---------------|
| SFD134BR2*GX2 | SFD13GBR6*GX2 | SFD33CBR2*GX3 | SFD349BR2*GX3 |
| SFD134BR3*GX2 | SFD13GBR6*GX4 | SFD33GBR2*GX5 | SFD34ABR2*GX3 |
| SFD134BR3*GX4 | SFD148BR2*GX2 | SFD33GBR3*GX4 | SFD34DBR2*GX3 |
| SFD136BR2*GX2 | SFD148BR6*GX3 | SFD33GBR3*GX5 | SFD413BR6*GX4 |
| SFD136BR4*GX2 | SFD334BR2*GX3 | SFD33GBR4*GX3 | SFD435BR4*GX3 |
| SFD138BR2*GX2 | SFD334BR3*GX2 | SFD33GBR5*GX4 | SFD435BR6*GX3 |
| SFD138BR3*GX7 | SFD334BR3*GX3 | SFD33GBR5*GX5 | SFD438BR6*GX3 |
| SFD138BR5*GXA | SFD336BR2*GX2 | SFD33GBR5*GXA | SFD43CBR2*GX3 |
| SFD138BR6*GXB | SFD338BR4*GX2 | SFD33GBR5*GXB | SFD43GBR7*GX4 |
| SFD138BR6*GX2 | SFD338BR5*GX5 | SFD33GBR6*GX2 | SFD448BR2*GX3 |
| SFD139BR2*GX2 | SFD338BR5*GX6 | SFD33GBR6*GX3 | SFD44ABR2*GX3 |
| SFD13ABR2*GX2 | SFD338BR5*GXA | SFD33GBR6*GX4 | SFD544BR2*GX3 |
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| SFD13BBR4*GX2 | SFD338BR6*GX3 | SFD33GBR7*GX4 | SFD54EBR2*GX3 |
| SFD13CBR2*GX2 | SFD338BR6*GX5 | SFD33GBR7*GX4 | SFD54EBR4*GX3 |
| SFD13EBR5*GX5 | SFD338BR6*GX7 | SFD33GBR7*GX5 | SFD54GBR4*GX3 |
| SFD13GBR4*GX2 | SFD338BR6*GX5 | SFD344BR2*GX3 | SFD54GBR6*GX3 |
| SFD13GBR5*GX4 | SFD339BR2*GX2 | SFD345BR2*GX3 | SFD54EBR6*GX3 |
| SFD13GBR5*GXA | SFD33CBR2*GX2 | SFD349BR2*GX3 | |

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DENNIS

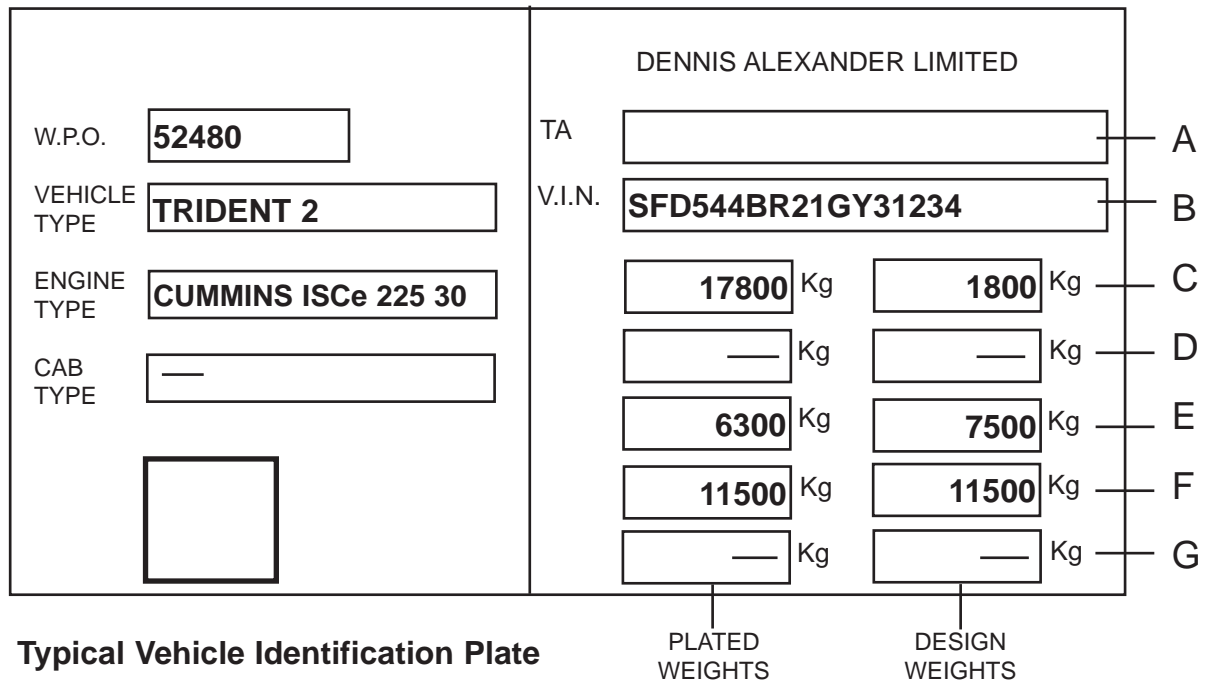
SECTION 1.1

| | | |
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AMENDED:

VIN PLATE

This Trident can be identified on the VIN plate shown below.



| TYPICAL VIN | | KEY TO VIN PLATE | |
|-------------|------------------------------|-----------------------------|-------------------------------|
| SFD | World Manufacturers Identity | A | Type Approval Number |
| 1 | Wheelbase | B | Vehicle Identification Number |
| 3 | Engine | C | Gross Weight |
| 4 | Transmission | D | Train Weight |
| B | Air Conditioning | E | Axle 1 Weight |
| R | Hand of Drive | F | Axle 2 Weight |
| 2 | Series / mark | | |
| 1 (*) | Build / Year | | |
| G | Build Plant | | |
| X | Model | | |
| 2 | Frame Type | TYPICAL VEHICLE TYPE | |
| 1234 | Serial Number | TRIDENT X2134BR2 | |

* Denotes build year in VIN number on front cover

Please quote VIN, vehicle type and WPO numbers with any enquiries concerning this vehicle.

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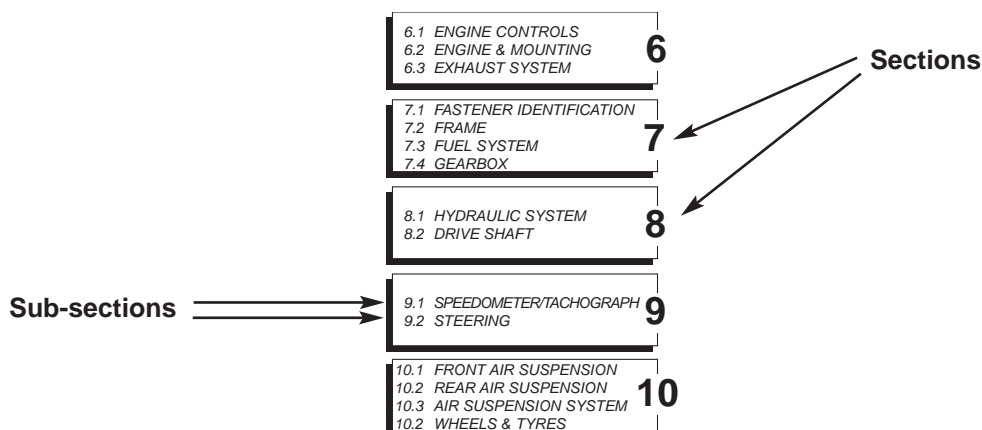
USING THIS MANUAL

Structure

The manual is divided into **10 Sections**. These sections are separated by **blue numbered dividers**.

Each of the manual's 10 Sections contains separate **Sub-sections**.

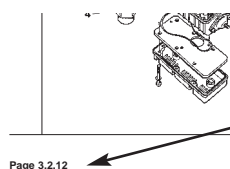
An **index listing both the Sections and Sub-sections** is at the front of the manual, following the cover page.



At the beginning of each Section is a **detailed index** of its contents.

| PARTS MANUAL | | BRAKING SYSTEM | |
|--|------|----------------|--|
| DENNIS | | | |
| SECTION 3.2 | | | |
| Braking system | Page | 3.2.2 - 3 | |
| Pipe fittings | Page | 3.2.4 - 5 | |
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Page numbers indicate the **Section, Sub-section, and individual page number**.



The full number appears at the bottom of each page.

Abbreviations

- A/R** = As required
- c/w** = complete with

Amendments

The amendment date appears at the top of the page.



This symbol, next to an item line, indicates that the item has been amended for the current issue of the page.

| PARTS MANUAL | | ELECTRICAL | |
|-----------------|-----------------------|------------|----------|
| AMENDED: 040898 | | | |
| ITEM NO | DESCRIPTION | NO USED | PART NO |
| | Alternator - Bosch T1 | 1 | 656804 |
| 1 | Cover - air intake | 1 | 656804-1 |
| 2 | Shield - drive end | 1 | 656804-2 |
| 3 | Bearing | 1 | 656804-3 |
| 4 | Cover plate | 1 | 656804-4 |
| 5 | Rotor | 1 | 656804-5 |
| 6 | Collector ring | 1 | 656804-6 |

Quick Reference Spares

Quick Reference Spares appears at the end of the first section of the manual (**Section 1.4**), and contains a list of service items, selected spares, and control units to save time when identifying the more common service spares. This is an aid - reference should always be made to the relevant section.

DENNIS

SECTION 1.2

| | | |
|--------------------------------|-------|-----------|
| Parts Centres | .Page | 1.2.2 - 2 |
| Regional Parts Managers | .Page | 1.2.2 - 3 |
| Service Centres | .Page | 1.2.2 - 4 |
| Regional Service Centres | .Page | 1.2.2 - 5 |

PARTS CENTRES

AMENDED:070905

AFTER MARKET SUPPORT LINE

0845 358 9988

FOR ALL ENQUIRIES

including :

Part Number Identification

Parts Ordering

Service Support

Warranty Support

Technical Support

FAX numbers :

Parts Ordering0845 358 9992

Technical Support01483 451458

Warranty/Service01483 301696

REGIONAL PARTS MANAGER

AMENDED:081205

SOUTH EAST

REGIONAL PARTS MANAGER

MARK BOWLEY

E-MAIL :

mark.bowley@alexander-dennis.com

MOBILE :

07770 645212

MIDLANDS AND SOUTH WEST

REGIONAL PARTS MANAGER

KEVIN YEARDLEY

E-MAIL :

kevin.yeardley@alexander-dennis.com

MOBILE :

07979 705519

NORTH

REGIONAL PARTS MANAGER

MATT SHENTON

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07770 781377

SCOTLAND AND IRELAND

REGIONAL PARTS MANAGER

JOHN McPHERSON

E-MAIL :

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MOBILE :

07786 515652

HEAD OF UK & EIRE CUSTOMER MANAGEMENT

CUSTOMER MANAGEMENT

ROB WILLIAMS

E-MAIL :

rob.williams@alexander-dennis.com

MOBILE :

07764 922274

SERVICE CENTRES

AMENDED:081205

BRISTOL

| | |
|---------------------------------|--|
| BRISTOL SERVICE CENTRE: | Folly Lane. St Philips. Bristol. BS2 0RH |
| TELEPHONE: 0117 955 0444 | FAX : 0117 955 0666 |
| OUT OF HOURS CONTACT : | +44 (0) 7747 760 255 |

WARE

| | |
|--------------------------------|---|
| WARE SERVICE CENTRE: | Widbury Hill. Ware. Hertfordshire. SG12 7AS |
| TELEPHONE: 01920 462383 | FAX : 01920 463834 |
| OUT OF HOURS CONTACT : | +44 (0) 7881 917645 |

REGIONAL SERVICE MANAGERS

AMENDED:240506

LONDON

REGIONAL SERVICE MANAGER

STEVE EDMONDS

E-MAIL :

steve.edmonds@alexander-dennis.com

MOBILE :

07831 704251

SOUTH EAST

REGIONAL SERVICE MANAGER

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07768 921192

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david.allen@alexander-dennis.com

MOBILE :

07770 733779

UK FIELD SERVICE MANAGER

NIGEL PARKS

E-MAIL : nigel.parks@alexander-dennis.com

MOBILE :

07770 733779

DENNIS

SECTION 1.3

| | | |
|------------------------------|------|-----------|
| Health & Safety Notes | Page | 1.3.3 - 5 |
| Moving the Vehicle | Page | 1.3.3 |
| Working on the Vehicle | Page | 1.3.3 |
| Hazardous Materials | Page | 1.3.3 - 5 |
| Environmental Warnings | Page | 1.3.6 |

PLEASE READ FOR YOUR OWN SAFETY**MOVING THE VEHICLE**

During movement of the vehicle chassis the hazards involved are those normally associated with all forms of powered transport.

Before driving the vehicle, operators should familiarise themselves with the vehicle operator's handbook.

With the chassis in the unbodied condition, the following areas may present hazards additional to those normally encountered on a vehicle:

- Projections - chassis cross members, exhaust tail pipe.
- Moving parts - Cooling fan, propshaft, brake levers, steering linkage.
- Temporary components - drivers seat.
- Noise - engine and exhaust noise may exceed levels achieved on a bodied vehicle.

WORKING ON THE VEHICLE

Before commencing work on the vehicle, take note of all instructions relating to safety and hazardous items. The following potential hazards should be considered:

Stored Energy

Certain components and systems on the vehicle contain stored energy which must not be released in a non approved manner.

- Tyre air pressure.
- Braking system air pressure.
- Park brake spring compression.
- Cooling system pressure and temperature - the system will remain hot and under pressure after use. Allow to cool before attempting to remove the header tank cap..
- Chassis lifting - adequate support required during jacking or lifting. Eye protection should be worn when working under the vehicle.
- Diesel injection pumps supply fuel to the engine at very high pressure, care must be taken when working on the injectors or injection pipes as fuel under high pressure can penetrate the skin.
- Brake drums or discs will remain at an extremely high temperature for a considerable time after use, caution must be exercised when handling such items to avoid burns.

Self Locking Nuts

- When self locking nylon type nuts are removed, they should be discarded and new items used.
THEY SHOULD NEVER BE RE-USED.

AMENDED:

HAZARDOUS MATERIALS

Certain components on the vehicle contain, or can produce, material which must be handled cautiously. These materials are as follows:

Those which must not be taken internally or contact the eyes, skin, or mouth

Battery acid

Diluted sulphuric acid can cause skin burns, eye damage and internal damage if ingested. Vapour from the solution can also irritate the respiratory system and the eyes. Take care when topping up or carrying the battery. Also hydrogen gas is given off by the battery is highly explosive, never allow a naked flame in close proximity.

Cooling system antifreeze

Based on ethylene glycol, and has significant toxicity if ingested, but can also be absorbed through the skin. Causes mild eye and skin irritation. Hot fluid can also scald.

Mineral oil (Engine and Gearbox)

This type of oil contains small quantities of polycyclic aromatic hydrocarbons, which can cause irritation, dermatitis and oil acne if allowed persistent contact with the skin. Toxicity through ingestion is of a low order, however this should be avoided. If swallowed or gets into the eyes, seek medical advice.

Hydraulic Fluids

These are generally made from polyalkylene glycol ethers and can cause mild irritation of the skin and eyes. The toxicity through ingestion is generally regarded to be low order. If swallowed or gets into the eyes, seek medical advice.

Friction Material Dust

May consist of a high percentage of white asbestos bonded in a resin. Handling and fitting lined brake shoes or clutch plates is not regarded as a health risk. The dust produced by worn linings is degraded by the brake or clutch is not believed to be hazardous. However it is prudent to avoid generating airborne dust concentration, therefore dust removal should be by the use of approved vacuum cleaner or by the use of a damp cloth (for occasional exposure).

Insulation Material

Man made fibres which include glass, rock, slag and metal oxides. These may cause skin irritation. Inhalation of dust from the fibres should be kept below 1 fibre/ml.

Fuel

Diesel fuel is a mixture of hydrocarbons largely consisting of paraffinic hydrocarbons, with blended constituents such as refined vacuum distillants and catalytically cracked oil. Contact with the skin can cause irritation and dermatitis. Inhalation and ingestion are serious risks and can cause chemical pneumonitis. If swallowed or gets into the eyes, seek medical advice.

Exhaust Emissions

Substances produced are carbon monoxide, hydrocarbons and oxides of nitrogen. Can be highly toxic if inhaled in sufficient quantity. Emissions in enclosed spaces should be minimised unless adequate extraction facilities are available.

Those which may cause noxious fumes if allowed to burn:**Mineral oil (engine and gearbox)**

These do not present a fire or explosive hazard under normal circumstances.

Hydraulic Fluids

These do not present a fire or explosive hazard under normal circumstances.

Fuel (diesel)

Not classified as flammable for most purposes.

Rubber and synthetic alternatives (tyres, hoses, bushes, seals, insulation)

Natural and synthetic rubbers are combustible and will produce unpleasant and dangerous fumes. "Viton" seals are used in a small number of applications on the chassis and this material can leave highly corrosive residue if burned, The rubber changes into a sticky substance which contains Hydrofluoric acid. This is extremely corrosive, if it gets on to the skin you must seek medical advice immediately. If dealing with a vehicle which has fire damage the use of protective gloves is recommended, these should be discarded after use.

Coatings (Mebon chassis protection)

Generally inert in the cured state, but should be removed from areas to be welded.

Points to Remember

- Remove rings, watches before working on the vehicle, particularly necessary when working on the electrical system.
- Wear eye protection when working underneath the vehicle.
- Use barrier cream or wear gloves as necessary to protect hands.
- Keep loose clothing and long hair away from moving parts.
- Never attempt to lift heavy components unaided.

For details of jacking and frame support please refer to the service manual

AMENDED:

 **WARNING**

Used engine oil, hydraulic fluids, transmission fluid, antifreeze, (and their containers) batteries and tyres can be a hazard to health and the environment.

Fluids and other substances (e.g. used oil) and surplus parts must be disposed of in a safe and environmentally sound manner.

On no account must any of these items be placed in household refuse bins, or the fluids poured down drains.

Observe local regulations and laws on environmental protection and disposal of hazardous materials.

These should be disposed of using authorised waste disposal facilities.
Consult local authority for safe disposal facilities.

DENNIS

SECTION 1.4

| | | |
|------------------------------|------|-----------|
| Special Tools | Page | 1.4.3 |
| Quick Reference Spares | Page | 1.4.4 - 9 |

AMENDED:241103

Trident 2 special tools and diagnostic equipment**Gearbox - ZF HP500**

| | |
|--|--------------|
| Testman diagnostic software (1) | 6008 308 901 |
| DPA 04 1 Adaptor (2) | 6008 308 600 |
| RS 232-cable (3) | 6008 308 601 |
| ISO cable (4) | 0501 211 103 |
| Pressure gauge 0 - 25 bar | 1P01 136 670 |
| Pressure gauge 0 - 10 bar * 2 | 1P01 137 856 |
| Test union M10 x 1 (spare if required) | 0637 839 504 |

Voith D863.3

| | |
|--|------------|
| Diagnostic software and interface lead | 59.2500.20 |
|--|------------|

Braking System

| | |
|---|--------------|
| Brake tube cutter | 610224 |
| Pressure gauges 0 - 10 bar * 4 | local supply |
| Test hoses with ISO test connectors * 4 | local supply |
| ISO test nipple nut -2 off (to make above) | SC1006 |
| Front Axle Brakes - Kirkstall | |
| Brake cam bush & cam oil seal installer | E565 |
| Brake shoe bush installer | E566 |
| Rear Axle Brakes - Perrot | |
| Rear brake shoe return spring remover / installer | 12 158 001 |
| Pad wear gauge - old caliper | 435596 |
| Caliper overhaul kit | 659332-4 |

Rear Axle - ZF AV-132

| | |
|---|--------------|
| Oil seal driver | 5870 051 040 |
| Driver handle | 5870 260 004 |
| Halfshaft Oil seal driver | 5870 005 098 |
| Driver handle | 5870 260 002 |
|  Oil sampling device | 5870 286 078 |

Front Axle - Kirkstall

| | |
|---------------------------------|----------|
| Swivel pin dummy nut | SL225/19 |
| UNIPAC bearing alignment sleeve | E543 |
| Alignment Studs | E542 |

Engine - Cummins ISC Series

| | |
|---------------|----------|
| DCA4 test kit | CC 2628M |
|---------------|----------|

Chassis Electrics

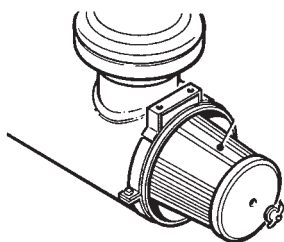
| | |
|---------------------------------------|----|
| Actia Aladin TMI diagnostic equipment | D3 |
|---------------------------------------|----|

Cooling fan motor & ZF Steering

| | | |
|---------------------|-----------------------|------------|
| Pressure test point | Hose adaptor | SMA-3-2000 |
| | Hose to gauge adaptor | MAV1/4-MA3 |

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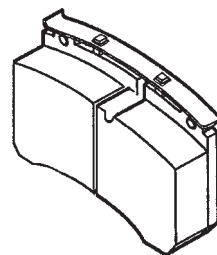
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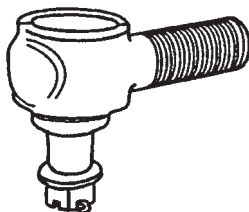
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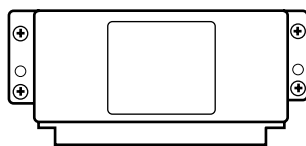
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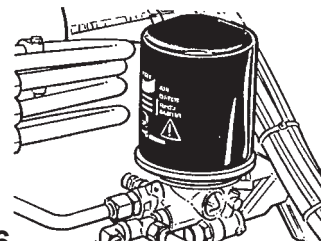
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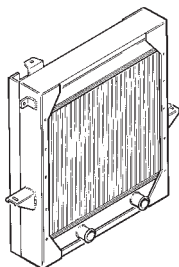
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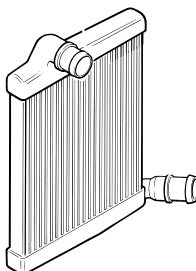
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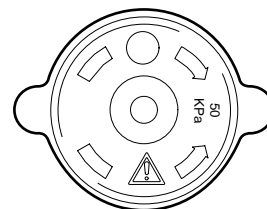
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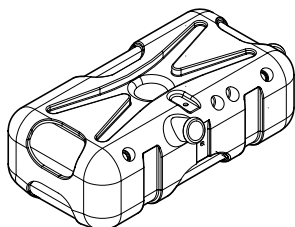
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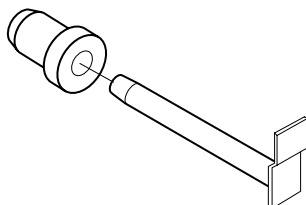
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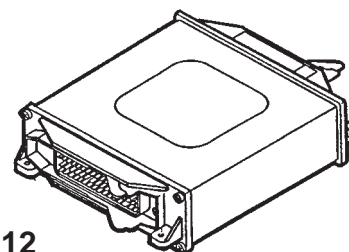
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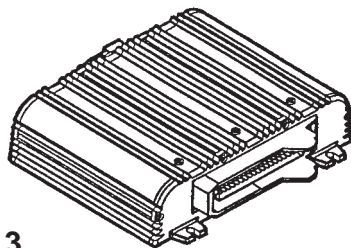
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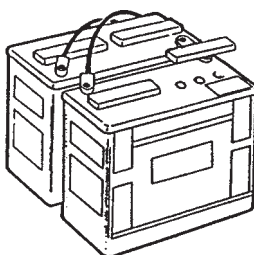
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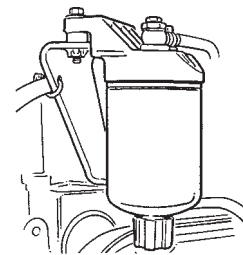
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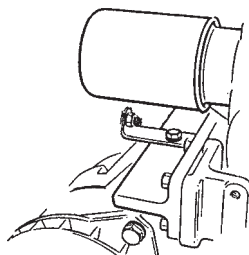
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15



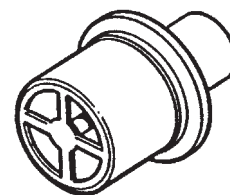
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17



18

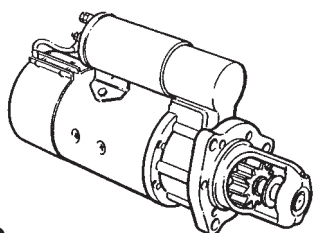


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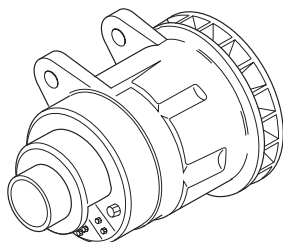
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|-----------|---------|
| | AIR CLEANER | | | |
| 1 | Element - Air cleaner - engine | 1 | 651031-1 | |
| 2 | Filter restriction indicator | 1 | 658566 | |
| | FRONT AXLE | | | |
| 3 | Kit - brake pad - front | 1 | 658470-41 | |
| 4 | Socket - LH | 1 | 656007-49 | |
| | Socket - RH | 1 | 655500-7 | |
| | REAR AXLE | | | |
| 3 | Kit - brake pad - rear | 1 | 658470-41 | |
| | BRAKING SYSTEM | | | |
| 5 | Electronic control unit - ABS | 1 | 658880 | |
| 6 | Cartridge kit - air dryer | 1 | 658208-3 | |
| | COOLING SYSTEM | | | |
| 7 | Radiator Insert | 1 | 427381 | |
| 8 | Charge cooler | 1 | 430554 | |
| 9 | Pressure cap | 1 | 654109 | |
| 10 | Header tank assembly | 1 | 429792 | |
| 11 | Probe - header tank | 1 | 652489 | |
| | Grommet - coolant probe | 1 | 652490 | |
| | ELECTRICAL SYSTEM | | | |
| 12 | Electronic control unit - See Gearbox Section 7 | - | - | |
| 13 | Electrical system control module | 1 | 655706 | |
| 14 | Battery - 12v | 2 | 656334 | |
| | ENGINE | | | |
| 15 | Element - fuel filter / water separator | 1 | DP010196 | |
| 16 | Corrosion Resistor | 1 | ZZ11071 | |
| | Element - corrosion resistor - DCA4 - 2 units | AR | WF2070 | |
| | Element - corrosion resistor - DCA4 - 4 units | AR | WF2071 | |
| | Element - corrosion resistor - DCA4 - 6 units | AR | WF2072 | |
| | Element - corrosion resistor - DCA4 - 8 units | AR | WF2073 | |
| | Element - corrosion resistor - DCA4 - 10 units | AR | WF2077 | |
| | Element - corrosion resistor - DCA4 - 21 units | AR | WF9093 | |
| 17 | Element - Lubrication oil filter | 1 | DP010179 | |
| 18 | Thermostat | 1 | 3940632 | |

AMENDED:081205

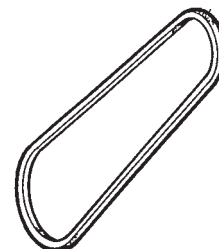
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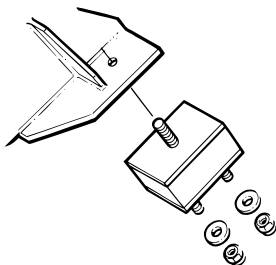
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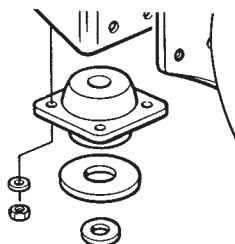
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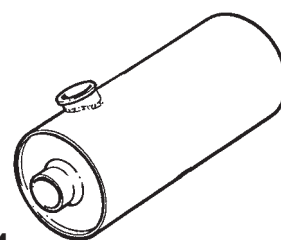
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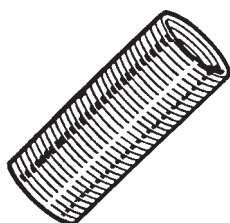
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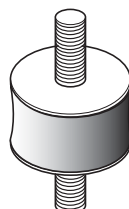
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25



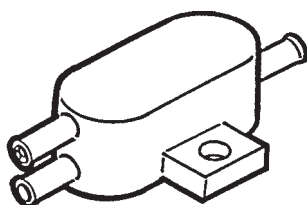
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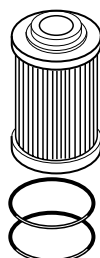
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28



29



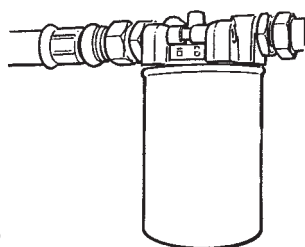
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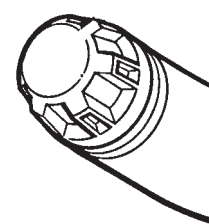
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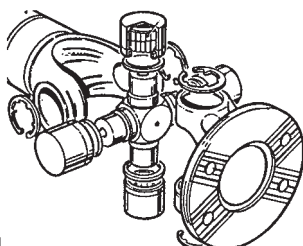
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33



34



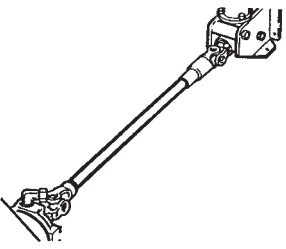
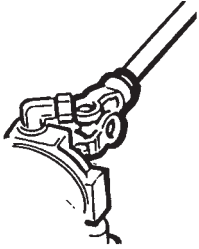
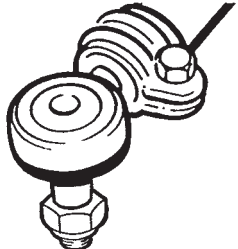
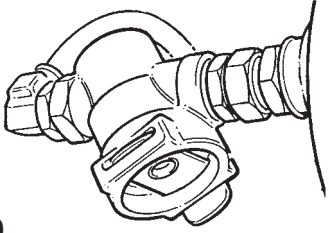

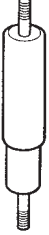
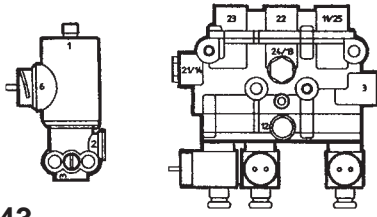
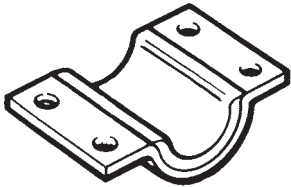
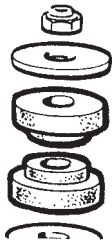
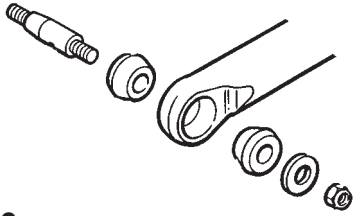

35

36

AMENDED:181202

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|-------------------------|---|---------|----------|---------|
| ENGINE | | | | |
| ☞ 19 | Starter motor | 1 | 660070 | |
| 20 | Alternator -140A | 2 | 658123 | |
| 21 | Belt - Alternator - 140A | 1 | 657277 | |
| 22 | Engine mounting - rear | 2 | 657726 | |
| 23 | Engine mounting - side | 2 | 657639 | |
| EXHAUST SYSTEM | | | | |
| 24 | Silencer | 1 | 430572 | |
| 25 | Flexible pipe | 1 | 423676 | |
| 26a | Rubber mount - silencer | 4 | 659138 | |
| 26b | Rubber mount - tailpipe | 2 | 658890 | |
| FUEL SYSTEM | | | | |
| 27 | Fuel filler cap | 1 | 658137 | |
| 28 | Breather | 1 | 417362 | |
| GEARBOX | | | | |
| 29a | Filter kit - external type | 1 | 656011-1 | Voith |
| ☞ 29b | Filter kit - internal type | 1 | 657218-1 | Voith |
| 29c | Filter kit - comprising: element, o ring & gasket | 1 | 652638-1 | ZF |
| ☞ 30a | Plug - oil drain - sump | 1 | 659927-3 | Voith |
| ☞ | Seal - sump plug | 1 | 650247-2 | Voith |
| ☞ 30b | Plug - oil drain - sump | 1 | 653991-2 | ZF |
| ☞ | Washer - sump plug | 1 | 653991-3 | ZF |
| HYDRAULIC SYSTEM | | | | |
| 31 | Element - Hydraulic tank filter | 2 | 650031 | |
| 32 | Element - Hydraulic filter | 1 | 656730-1 | |
| 33 | Filler breather assembly | 1 | 657157 | |
| PROPSHAFT | | | | |
| 34 | Joint kit | 2 | 659186 | |

AMENDED:

| | | |
|---|---|--|
| <p>37</p>  | <p>38</p>  | <p>39</p>  |
| <p>40</p>  | <p>41</p>  | <p>42</p>  |
| <p>43</p>  | <p>44</p>  | <p>45</p>  |
| <p>46</p>  | <p>47</p>  | |
| | | |
| | | |

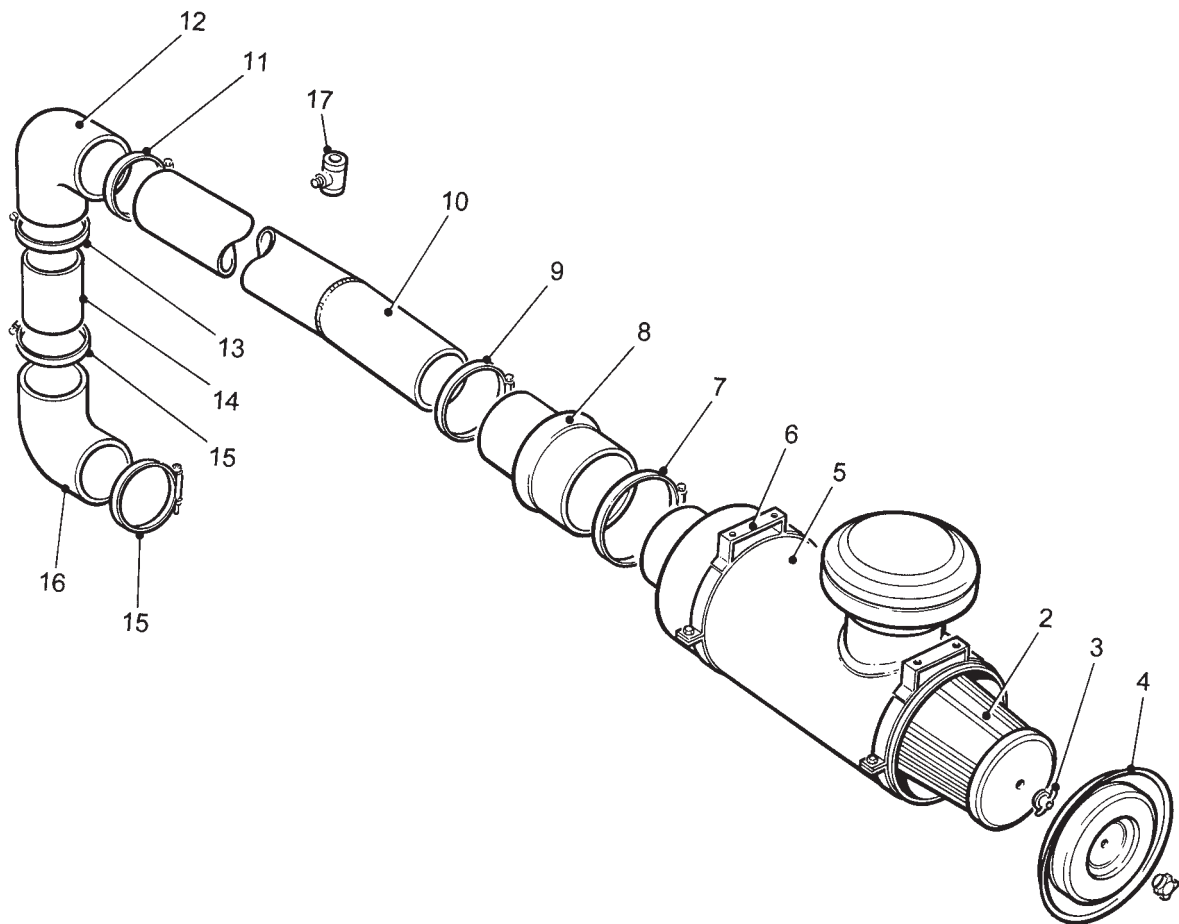
AMENDED:170103

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|----------|-------------|
| | STEERING GEAR | | | |
| 37 | Relay shaft | 1 | 412555-5 | |
| 38 | Yoke assembly | 1 | 611511 | |
| 39 | Ball joint | 2 | 656692-1 | |
| | AIR SUSPENSION | | | |
| 40 | Line filter | 1 | 655710-1 | |
| 41 | Diaphragm - Front | 2 | 656298-2 | |
| | Diaphragm - Rear | 4 | 656299-2 | |
| 42 | Damper - Front | 4 | 657610 | |
| | Damper - Rear | 2 | 657611 | |
| 43 | Solenoid valve - 3 way | 1 | 656606 | |
| | Solenoid valve - Single | 1 | 656607 | |
| ☞ 44 | Bush half- A.R.B - Front | 4 | 434216 | Replace all |
| ☞ | Bush half - A.R.B. - Rear | 4 | 434214 | Replace all |
| ☞ 45 | Rubber bush - shock absorber | 16 | 657610-1 | |
| 46 | Mounting rubber - A.R.B. - eye - rear | 8 | 658973 | |
| ☞ 47 | Mounting rubber - A.R.B. - link - rear | 4 | 434947 | |

DENNIS

SECTION 2.1

System detailsPage 2.1.2 - 3



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|------------------------------|---------|-------------|---------|
| 1 | Air cleaner | 1 | 651031 | |
| 2 | Element Assembly | 1 | 651031-1 | |
| 3 | Nut & gasket assembly | 1 | 650551-3 | |
| 4 | Cover assembly | 1 | 651031-3 | |
| 5 | Body assembly | 1 | 651031-2 | |
| 6 | Mounting band - air cleaner | 2 | 651032 | |
| | Setscrew | 4 | MCS 110 20P | |
| | Nut | 4 | MCN 510P | |
| 7 | Clip | 1 | 611005-9 | |
| 8 | Hump hose | 1 | 651058 | |
| 9 | Clip | 1 | 611005-2 | |
| 10 | Air intake pipe | 1 | 436536 | |
| 11 | Clip | | 611005-2 | |
| 12 | Elbow-reducing | | 611605 | |
| 13 | Clip | | 611005-6 | |
| 14 | Air intake pipe - short | 1 | 424180 | |
| 15 | Elbow | 1 | 260840 | |
| 16 | Clip | 2 | 611005-6 | |
| 17 | Restriction indicator | 1 | 658566 | |
| | Label - air cleaner | 1 | 417594 | |

DENNIS

SECTION 2.2

Automatic lubrication system - OL1511-1Page 2.2.3

PARTS MANUAL AUTOMATIC LUBRICATION SYSTEM

AMENDED:

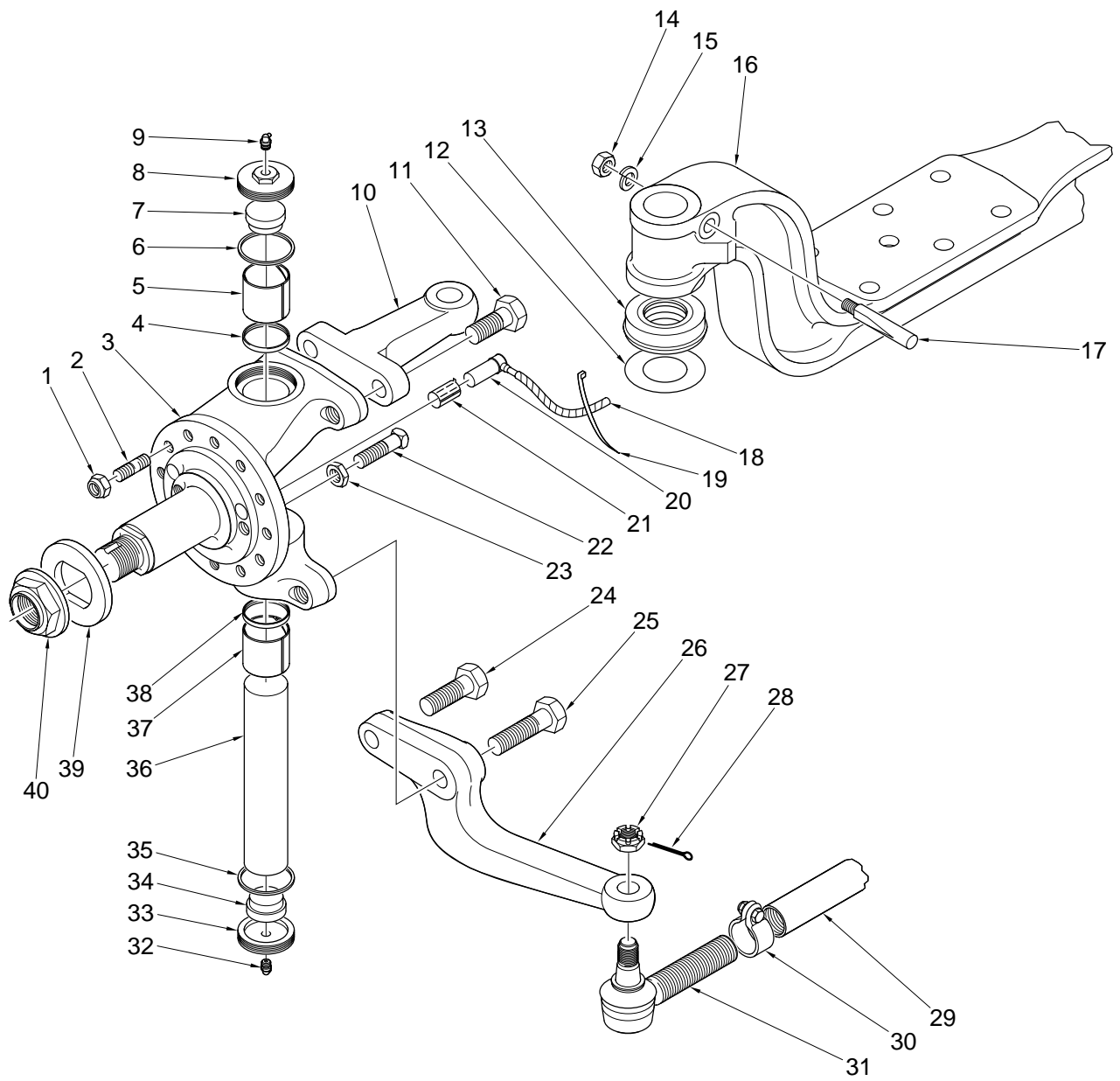
UNIT NO:OL1511-1

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|-------------------------------------|---------|-------------|---------|
| 1 | Autolube pump assy -24 POINT | 1 | 657386-1 | |
| 2 | Timer unit | 1 | 652426 | |
| | Setscrew | 2 | MCS 106 16P | |
| | Washer- plain | 2 | WMA 6SP | |
| | Washer - spring | 2 | WMC 6SP | |
| | Connector | 1 | 655241 | |
| | Pin | 2 | 655240 | |
| 3 | Elbow | 10 | 609497-3 | |
| 4 | Adaptor - straight | 4 | 609497-6 | |
| 5 | Nylon tube - dia 5mm | 5m | 652786 | |
| 6 | Air fitting | 1 | 656326-1 | |
| 7 | Extension | 2 | 653318-22 | |
| 8 | Harness - Autolube | 1 | 657386-2 | |
| 9 | Pump - 0.015cc | 6 | 609502 | |
| 10 | Pump - 0.025cc | 4 | 609503 | |
| 11 | Plug | 10 | 609504 | |
| 12 | Pump - 0.040cc | 2 | 650534 | |
| 13 | Tee piece - supply | 1 | 654923-1 | |
| 14 | Reducer | 1 | 654927-5 | |
| 15 | Washer- Aluminium | 1 | 655003 | |
| 16 | Grease - Autolube | 3.5kg | 652454 | |

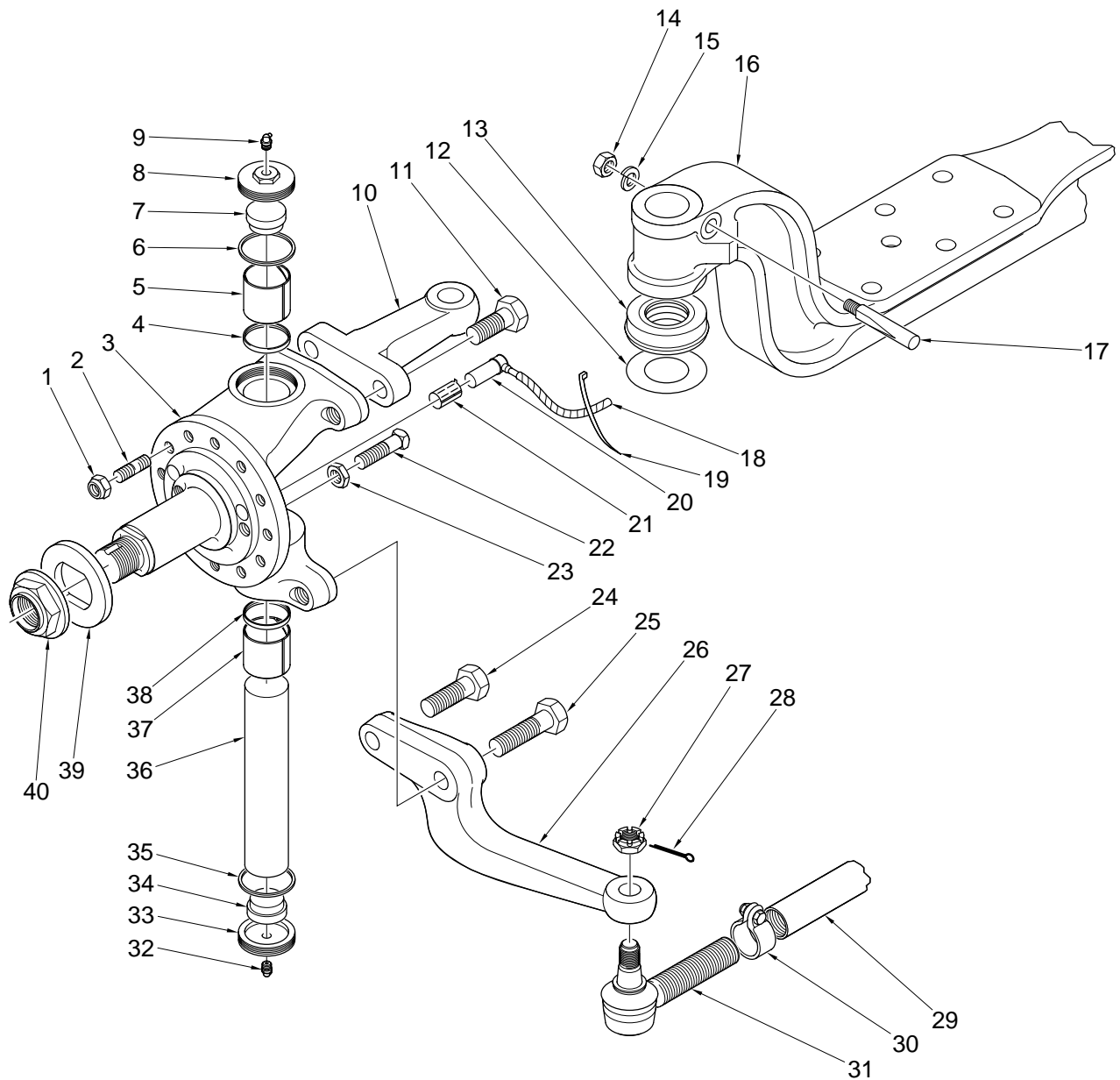
DENNIS

SECTION 2.3

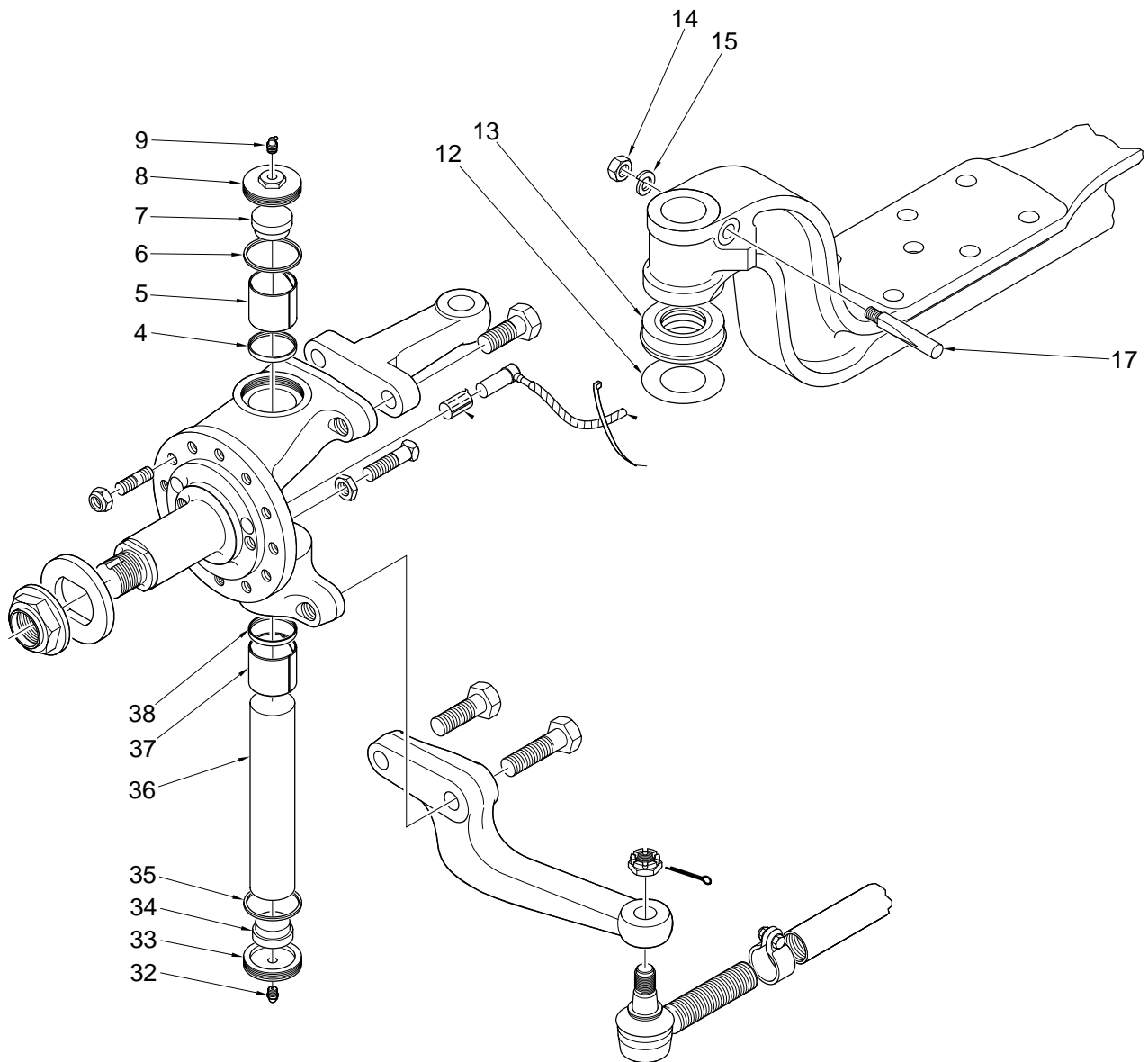
| | | |
|---------------------------------------|-------|-------------|
| Axle front | .Page | 2.3.2 - 5 |
| Swivel pin service kit | .Page | 2.3.6 - 7 |
| Hub and brake disc assembly | .Page | 2.3.8 - 9 |
| Axle front - guided | .Page | 2.3.10 - 11 |



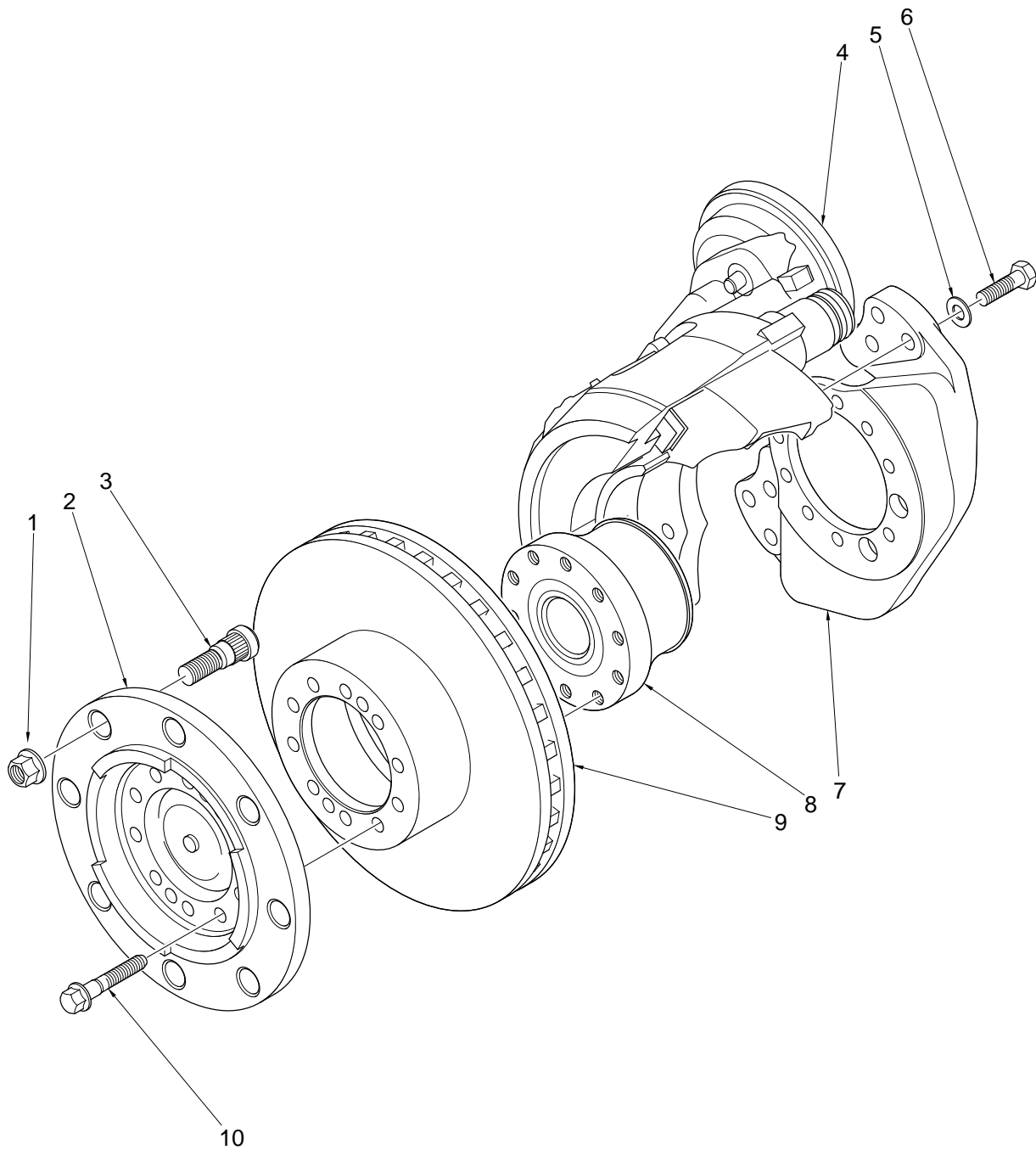
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|------------|---------|
| | Used on and up to Chassis No 2806 includes 822 & 823 | | | |
| | Axle -complete - disc brakes - T24 brake chambers | 1 | 659332 | AF1511C |
| | Axle -complete - disc brakes - T22 brake chambers | 1 | 659975 | AF1511E |
| | SWIVEL ASSEMBLY | | | |
| 1 | Brake bracket locknut | 20 | 607901-62 | |
| 2 | Brake bracket stud | 20 | 658470-1 | |
| 3 | Swivel | 2 | 658470-2 | |
| 4 | King pin oil seal (top) | 2 | 658470-3 | |
| 5 | King pin bush (top) | 2 | 658470-4 | |
| 6 | Top cap - spacer | 2 | 657688-25 | |
| 7 | Top cap foam insert | 2 | 658470-6 | |
| 8a | Top cap | 2 | 658470-7 | |
| 9 | Top cap lubricator | 2 | 658470-8 | |
| 10a | Top steering lever R/H | 1 | 658470-9 | |
| 11 | Top lever bolts | 2 | 658470-10 | |
| 12 | Swivel bearing. setting shim - 0.13 mm | A/R | 658470-11 | |
| | Swivel bearing. setting shim - 0.25 mm | A/R | 658470-12 | |
| | Swivel bearing. setting shim - 0.50 mm | A/R | 658470-13 | |
| | Swivel bearing. setting shim - 0.20 mm | A/R | 658470-14 | |
| 13 | King pin thrust bearing | 2 | 658470-15 | |
| 14 | Cotter pin nut 1/2" UNF | 2 | 606624-134 | |
| 15a | Cotter pin washer | 2 | 60465 | |
| 16 | Axle bed | 1 | 658470-16 | |
| 17 | Cotter pin | 2 | 658470-17 | |
| 18 | Not required on this application | - | - | |
| 19 | Not required on this application | - | - | |
| 20 | ABS sensor kit (per axle) | 1 | 658470-52 | |
| 21 | Sensor bush (supplied as part of item 20) | 1 | - | |
| 22a | Lockstop screw L/H & R/H | 2 | 658470-18 | |
| 22b | Lockstop screw R/H | 1 | 658470-19 | |
| ☞ 22c | Lockstop screw L/H & R/H - (Guided bus only) | 2 | 658470-18 | |
| ☞ 22d | Lockstop screw R/H - (Guided bus only) | 1 | 658470-19 | |
| | Shim axle stop | 2 | 68256-61 | |
| | Shim axle stop | 2 | 68256-62 | |
| | Shim axle stop | 2 | 68256-63 | |
| 23 | Lockstop nut | 3 | 658470-20 | |
| 24 | Bottom lever bolt | 26 | 658470-21 | |
| 25 | Bottom lever bolt | 2 | 658470-22 | |
| 26a | Bottom lever R/H | 1 | 658470-23 | |
| 26b | Bottom lever L/H | 1 | 658470-24 | |
| 27a | Ball pin nut | 2 | 658470-25 | |
| 28 | Split pin | 2 | 658470-26 | |
| 29a | Tie rod | 1 | 658470-27 | |
| 30 | Socket pinch bolt | 2 | 658109-4 | |



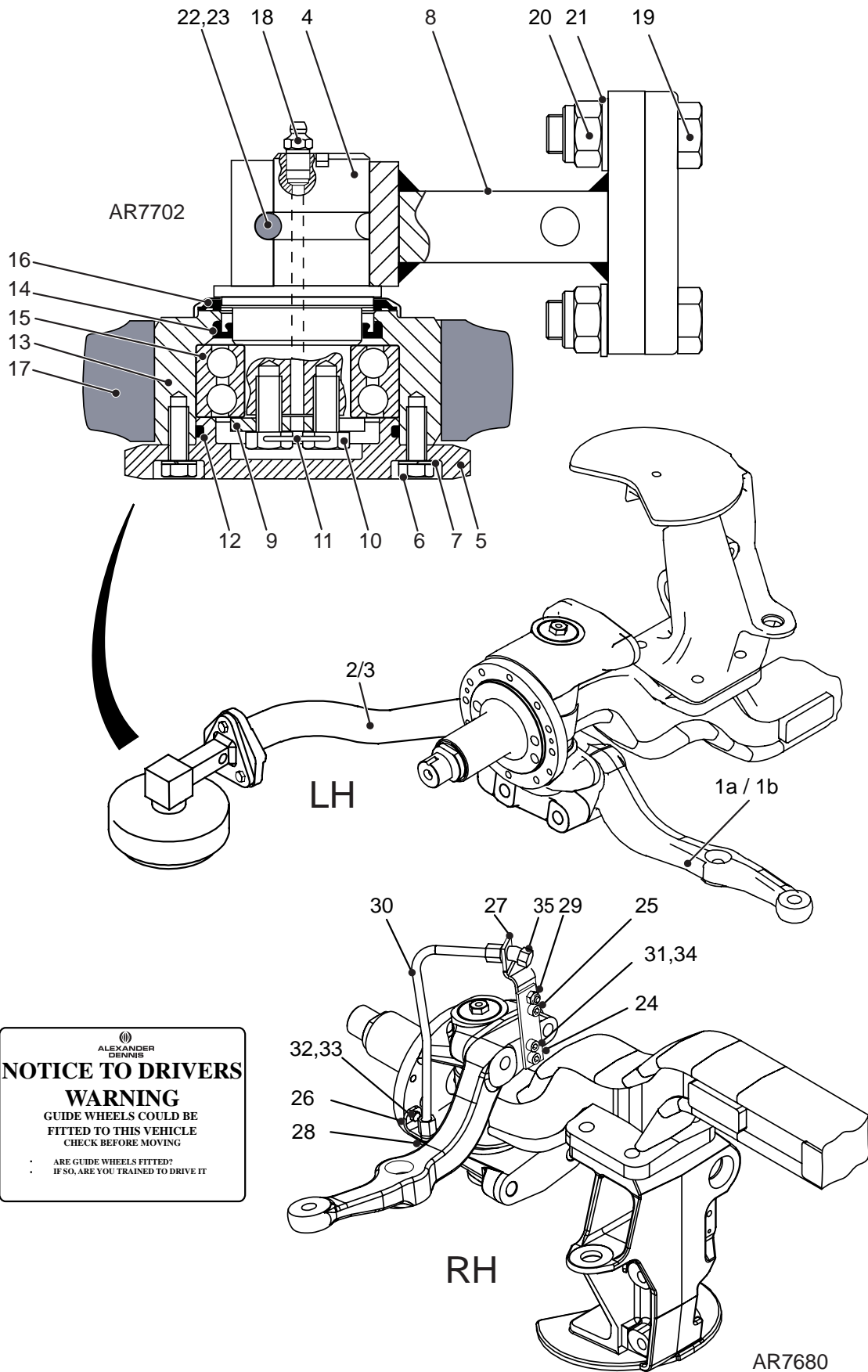
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|-----------|---------|
| 31 | Socket assembly R/H | 1 | 655500-7 | |
| | Socket assembly L/H | 1 | 656007-49 | |
| 32 | Bottom cap lubricator | 2 | 658470-8 | |
| 33 | Bottom cap | 2 | 658470-7 | |
| 34 | Bottom cap foam insert | 2 | 658470-6 | |
| 35 | Bottom cap - spacer | 2 | 657688-25 | |
| 36 | King pin | 2 | 658470-28 | |
| 37 | King pin bush (bottom) | 2 | 658470-4 | |
| 38 | King pin oil seal (bottom) | 2 | 658470-3 | |
| 39 | Thrust washer (hub bearing) | 2 | 655387-5 | |
| 40 | Hub nut | 2 | 655387-4 | |
| | Used on and after Chassis No 2807 except 822 & 823 | | | |
| | Axle -complete - disc brakes - T22 brake chambers | 1 | 659387 | AF1511G |
| 8b | Top cap | 2 | 658095-20 | |
| 10b | Top steering lever RH | 1 | 659387-4 | |
| 15b | Cotter pin washer | 2 | 659387-3 | |
| 22c | Lockstop screw LH & RH | 2 | 659387-5 | |
| 22d | Lockstop screw RH | 1 | 658521-12 | |
| 26c | Bottom lever LH | 1 | 659387-6 | |
| 27b | Ball pin nut | 2 | 658951-16 | |
| 29b | Tie rod | 1 | 659387-7 | |
| | All other parts as above | | | |




| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|-----------|---------|
| | SWIVEL PIN SERVICE KIT | | | |
| | Comprising items: 5,6, 8, 9, 12 to 15 17, 32 to 38 | | | |
| | Axle set | 1 | 658109-15 | |
| | One hub set | 1 | 658109-14 | |
| | Comprising items: 5,6, 12 to 15 17, 32 to 38 | | | |
| | Axle set | 1 | 658109-17 | |
| | One hub set | 1 | 658109-16 | |



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|-------------|---------|
| | HUB AND BRAKE ASSEMBLY | | | |
| 1 | Wheel nut - capped | 20 | 650723-4 | 610Nm |
| 2 | Hub flange | 2 | 658470-31 | |
| 3 | Wheel stud (R/H Thread) | 20 | 658470-32 | |
| 4 | Brake Caliper assembly L.H (See Braking System) | - | - | |
| | Brake Caliper assembly R.H (See Braking System) | - | - | |
| 5 | Brake Caliper retaining washer | 12 | 655387-24 | |
| 6 | Brake Caliper retaining Bolt | 12 | 658470-35 | |
| 7 | Brake Bracket R/H | 1 | 658470-36 | |
| | Brake Bracket L/H | 1 | 658470-37 | |
| 8 | Unitised Hub Bearing | 2 | 658470-38 | |
| 9 | Brake Disc | 2 | 658470-39 | |
| 10 | Hub Flange Bolt | 28 | 658470-40 | |
| | Bracket - pipe support | 1 | 429571 | |
| | Bracket - pipe support | 1 | 429581 | |
| | Bolt | 4 | MCB 108 20P | |
| | Washer | 4 | WMC 8SP | |
| | Bracket - steering swivels | 2 | 236452 | |
| | Bolt | 2 | MCB 108 16P | |
| | Washer - spring | 2 | WMC 8SP | |
| | Hose assembly - Actuators to bracket/pipe | 2 | 655025 | |
| | Hose assembly - Bracket to bracket | 2 | 429605 | |




ALEXANDER DENNIS
NOTICE TO DRIVERS
WARNING
 GUIDE WHEELS COULD BE
 FITTED TO THIS VEHICLE
 CHECK BEFORE MOVING
 : ARE GUIDE WHEELS FITTED?
 IF SO, ARE YOU TRAINED TO DRIVE IT

36,37

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|-------------|----------|
| | USED ON WPO'S 53002 & 53009 | | | |
| | Axle -complete - disc brakes - T22 brake chambers | 1 | 660483 | AF1512A |
| | Kit - ABS sensor and cable | 1 | 658470-52 | |
| ☞ | Kit - guide wheel lever arms c/w bolts | 1 | 660483-4 | |
| ☞ | Kit - Guided wheel axle conversion | 1 | 660483-22 | |
| ☞ | Guide wheel assembly | 2 | 660483-3 | |
| | ALL OTHER PARTS AS FRONT AXLE 659387 | | | |
| 1a | Steering lever - bottom - LH | 1 | 660483-1 | |
| 1b | Steering lever - botom - RH | 1 | 660483-2 | |
| | Bottom lever bolt | 4 | 658470-22 | |
| 2 | Guide lever arm - LH | 1 | 660483-5 | |
| 3 | Guide lever arm - RH | 1 | 660483-6 | |
| | Bolt - guide lever to axle | 1 | 660483-20 | |
| | Nut - guide lever to axle | 1 | 660483-21 | |
| 4 | Spindle - guide wheel | 1 | 660483-7 | |
| 5 | Scuff ring | 1 | 660483-8 | |
| 6 | Screw - scuff ring | 8 | 655505-20 | |
| 7 | Washer - scuff ring | 8 | 651042-10 | |
| 8 | Housing - guide wheel | 1 | 660483-9 | |
| 9 | Clamp plate | 1 | 660483-10 | |
| 10 | Screw - clamp plate | 2 | 655505-5 | |
| 11 | Locking wire | A/R | 660483-11 | |
| 12 | "O" ring - scuff ring | 1 | 660483-12 | |
| 13 | Hub - guide wheel | 1 | 660483-13 | |
| 14 | Oil seal - spindle | 1 | 660483-14 | |
| 15 | Bearing - spindle | 1 | 655505-25 | |
| 16 | Dirt seal - spindle | 1 | 660483-15 | |
| 17 | Tyre - solid rubber | 1 | 655505-22 | |
| 18 | Grease nipple | 1 | 607032-32 | |
| 19 | Bolt - wheel assembly to lever | 3 | 660483-16 | |
| 20 | Nut - wheel assembly to lever | 3 | 660483-17 | |
| 21 | Washer - wheel assembly to lever - hardened | 3 | 652800-51 | |
| 22 | Bolt - spindle pinch | 1 | 660483-18 | |
| 23 | Nut - pinch screw | 1 | 660483-19 | |
| 24 | Plate - bracket support | 1 | 438300 | AL1543-1 |
| 25 | Cap screw | 2 | MCS 3610 25 | |
| 26 | Bracket - brake pipe - upper | 1 | 431400 | |
| 27a | Bracket - brake hose - LH | 1 | 432004 | |
| 27b | Bracket - brake hose - RH | 1 | 432005 | |

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|-------------|---------------------|
| 28 | Swivel elbow - pipe to bracket | 2 | 655768-2 | |
| 29 | Nut - self locking | 2 | MCN 510P | |
| 30 | Brake pipe assy - LH & RH | 2 | 438281 | |
| 31 | Cap screw | 2 | MCS 3610 20 | |
| 32 | Bolt - bracket to backplate | 1 | MCB 108 16P | |
| 33 | Washer - spring | 1 | WMC 8SP | |
| 34 | Washer - spring | 1 | WMC 10SP | |
| 35 | Elbow - pipe to bulhead bracket | 1 | 655768-4 | |
| 36 | Warning label - "Notice to drivers" 130mm x 200mm | 1 | 439218 | |
| 37 | Warning label - "Notice to drivers" 195mm x 300mm | 1 | 432219 | |
| | Panel edge trim | 1m | B37294 | cut and fit to suit |
| | Plug - lower steering lever | 1 | 428037 | |
| | Nut - thin - plug | 2 | 655768-2 | |

DENNIS

SECTION 2.4

Axle 659334,659335,659336 used on and up to Chassis No 1299 to 2728

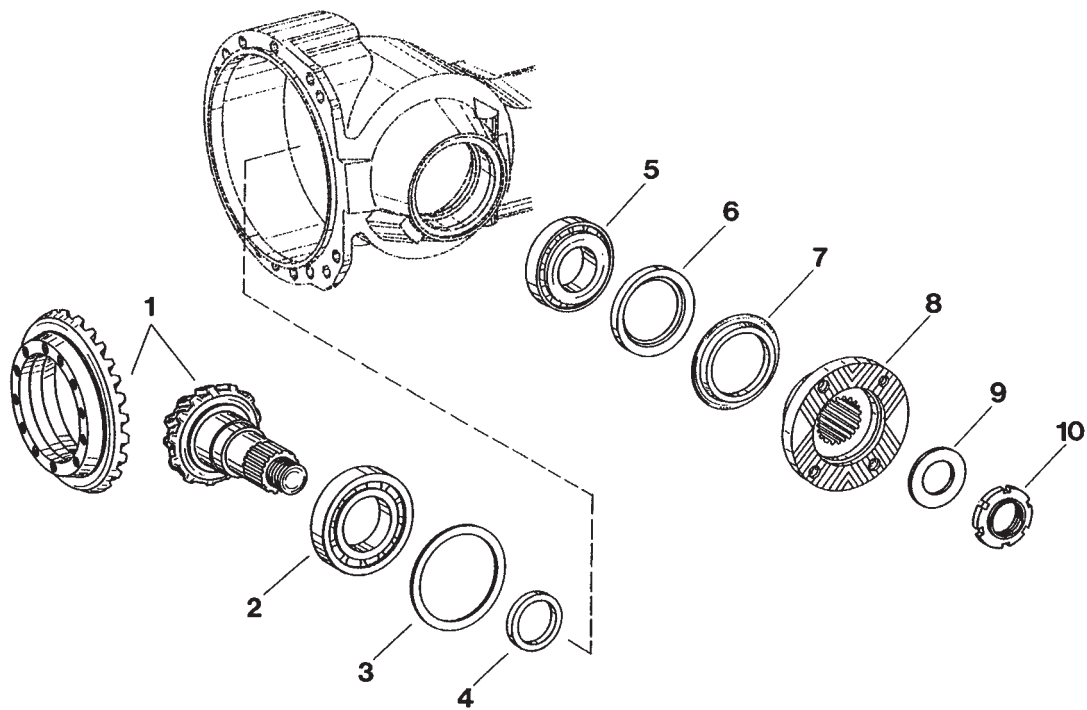
Light weight axle 659921 & 659922 used on and after Chassis No 2729

Lightweight are identifiable as not having separate bolt on console for Torque arm mountings.

Light weight 2 axle 660425 & 660426 used on and after Chassis No 3370

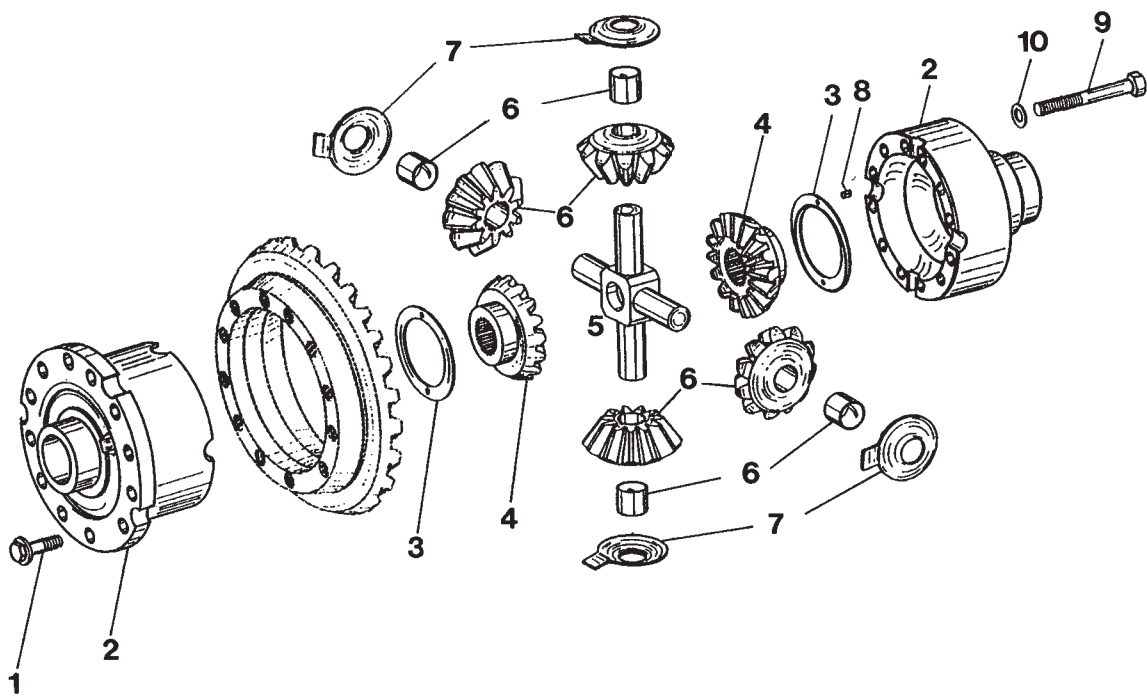
Lightweight 2 are identifiable by having light weight spring carrier arms and grease filled hubs

| | | |
|---|------|-------------|
| Input assembly | Page | 2.4.2 - 3 |
| Differential assembly | Page | 2.4.4 - 5 |
| Axle casing | Page | 2.4.6 - 7 |
| Gantry drive - Used on & up to Chassis No 1299 to 2728 | Page | 2.4.8 - 9 |
| Gantry drive - Used on & after Chassis No 2729 | Page | 2.4.10 - 11 |
| Output assembly - oil filled | Page | 2.4.12 - 13 |
| Output assembly - grease filled | Page | 2.4.14 - 15 |
| Hub odometer - AL1527-1 | Page | 2.4.15 |
| Brake assembly | Page | 2.4.16 - 17 |



Input Assembly

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|--------------|---------|
| | USED ON & UP TO CHASSIS No 1299 to 2728 | | | |
| | Rear axle - 5.13:1 - Voith - disc brake | 1 | 659334 | AR1511D |
| | Rear axle - 5.74:1 - ZF - disc brake | 1 | 659335 | AR1511E |
| | Rear axle - 6.20:1 - ZF - disc brake | 1 | 659336 | AR1511F |
| | USED ON & AFTER CHASSIS No 2729 | | | |
| | Rear axle - 5.74:1 - ZF - disc brake - <i>lightweight</i> | 1 | 659921 | AR1511G |
| | Rear axle - 6.20:1 - ZF - disc brake - <i>lightweight</i> | 1 | 659922 | AR1511H |
| | USED ON & AFTER CHASSIS No 2729 | | | |
| | Rear axle - 5.74:1 - ZF - disc brake - <i>lightweight 2</i> | 1 | 660425 | AR1511J |
| | Rear axle - 6.20:1 - ZF - disc brake - <i>lightweight 2</i> | 1 | 660426 | AR1511K |
| | Service Exchange Torso Axles | | | |
| | <i>Do not include brake assy or spring carrier arms</i> | | | |
| | Torso axle - 5.13:1 - Voith - disc brake | 1 | 659334-14--X | |
| | Torso axle - 5.74:1 - ZF - disc brake | 1 | 659335-1--X | |
| | USED ON & UP TO CHASSIS No 1299 to 2728 | | | |
| 1a | Bevel gear set - 5.13:1 | 1 | 658517-4 | AR1511D |
| 1b | Bevel gear set - 5.74:1 | 1 | 658518-1 | AR1511E |
| 1c | Bevel gear set - 6.20:1 | 1 | 659336-1 | AR1511F |
| 2 | Bearing | 1 | 656995-2 | |
| 3 | Shim | A/R | - | |
| 4 | Ring | A/R | - | |
| 5 | Bearing | 1 | 656995-3 | |
| 6 | Seal - shaft | 1 | 656995-4 | |
| 7 | Dust seal | 1 | 656995-5 | |
| 8 | Flange - input | 1 | 656995-6 | |
| 9 | Washer | 1 | 656995-7 | |
| 10 | Nut slotted | 1 | 656995-8 | |
| | USED ON & AFTER CHASSIS No 2729 | | | |
| 1d | Bevel gear set - 5.74:1 | 1 | 659921-1 | AR1511G |
| 1e | Bevel gear set - 6.20:1 | 1 | 659922-1 | AR1511H |
| | All other parts as above | | | |



Differential Assembly

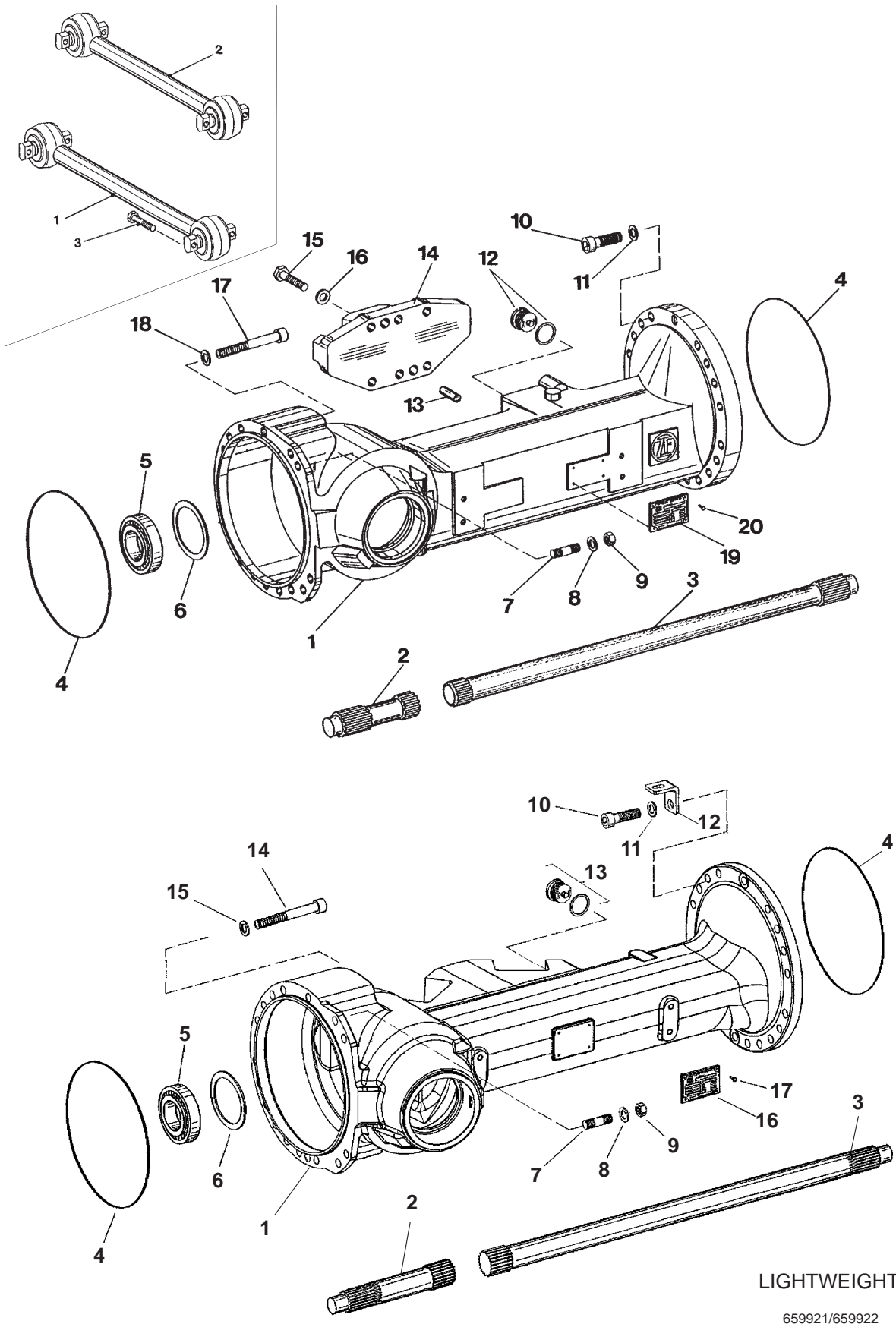
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|--|--------------------------------|---------|-----------|---------|
| USED ON & UP TO CHASSIS No 1299 to 2728 | | | | |
| DIFFERENTIAL ASSEMBLY | | | | |
| 1 | Locking screw - crownwheel | 12 | 656995-10 | |
| 2 | Differential casing - LH & RH | 1 | 658517-1 | |
| 3 | Thrust washer | 2 | 656995-12 | |
| 4 | Bevel gear | 2 | 656995-13 | |
| 5a | Differential spider | 1 | 658517-3 | |
| 6a | Bevel gear - c/w bush | 4 | 658517-2 | |
| 7 | Thrust washer | 4 | 656995-16 | |
| 8 | Grooved pin | 4 | 656995-17 | |
| 9 | Setscrew - differential casing | 12 | 656995-18 | |
| 10 | Washer | 12 | 656995-19 | |
| USED ON & AFTER CHASSIS No 2729 | | | | |
| DIFFERENTIAL ASSEMBLY | | | | |
| 1 | Locking screw - crownwheel | 12 | 656995-10 | |
| 2 | Differential casing - LH & RH | 1 | 659921-2 | |
| 3 | Thrust washer | 2 | 656995-12 | |
| 4 | Bevel gear | 2 | 656995-13 | |
| 5b | Differential spider | 1 | 659921-4 | |
| 6b | Bevel gear - c/w bush | 4 | 658517-2 | |
| 7 | Thrust washer | 4 | 659921-3 | |
| 8 | Grooved pin | 4 | 656995-17 | |
| 9 | Setscrew - differential casing | 12 | 656995-18 | |
| 10 | Washer | 12 | 656995-19 | |

REAR AXLE - CASING

PARTS MANUAL

AMENDED:081004

UNIT NO:AR1511D,E,F,G,H,J&K

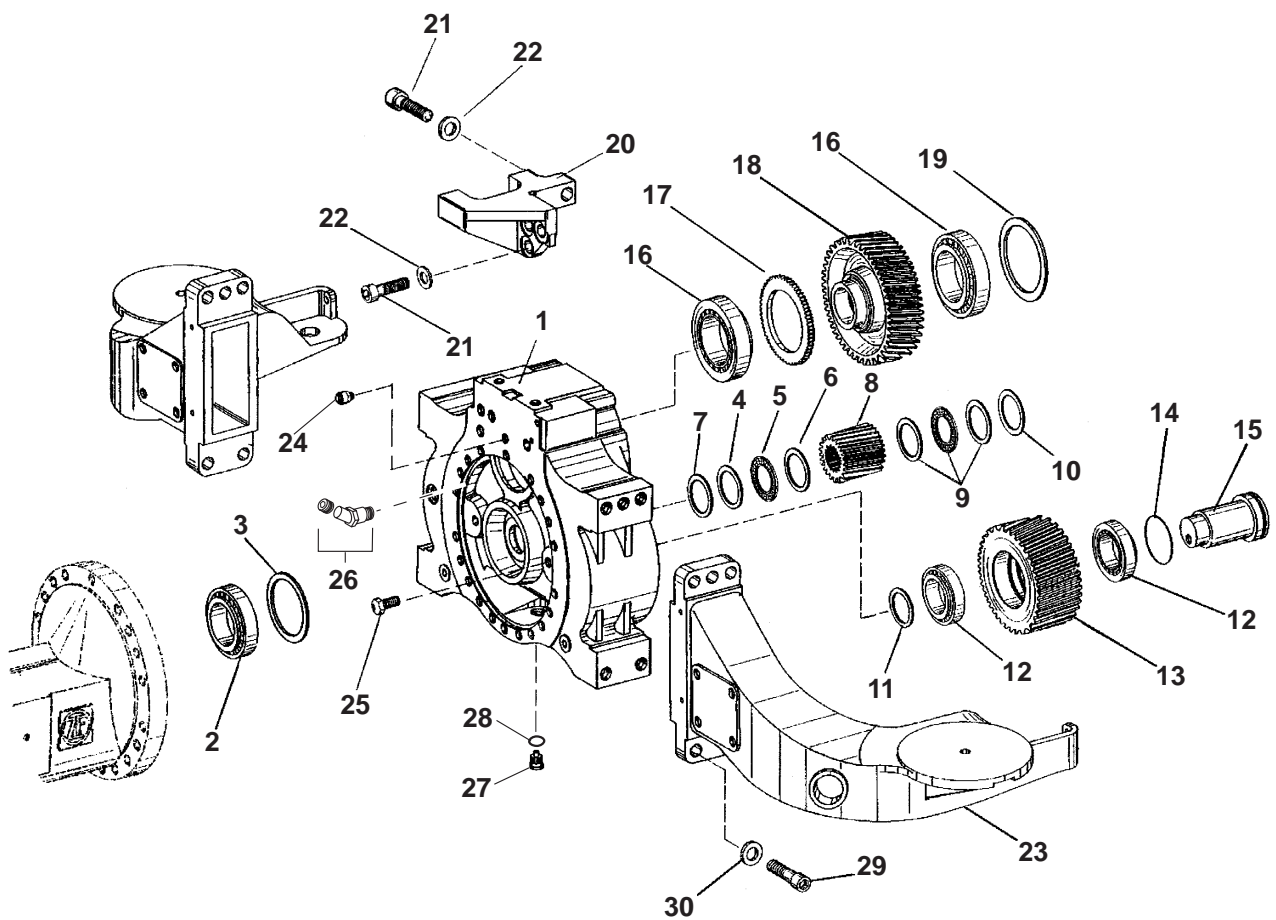


LIGHTWEIGHT

659921/659922

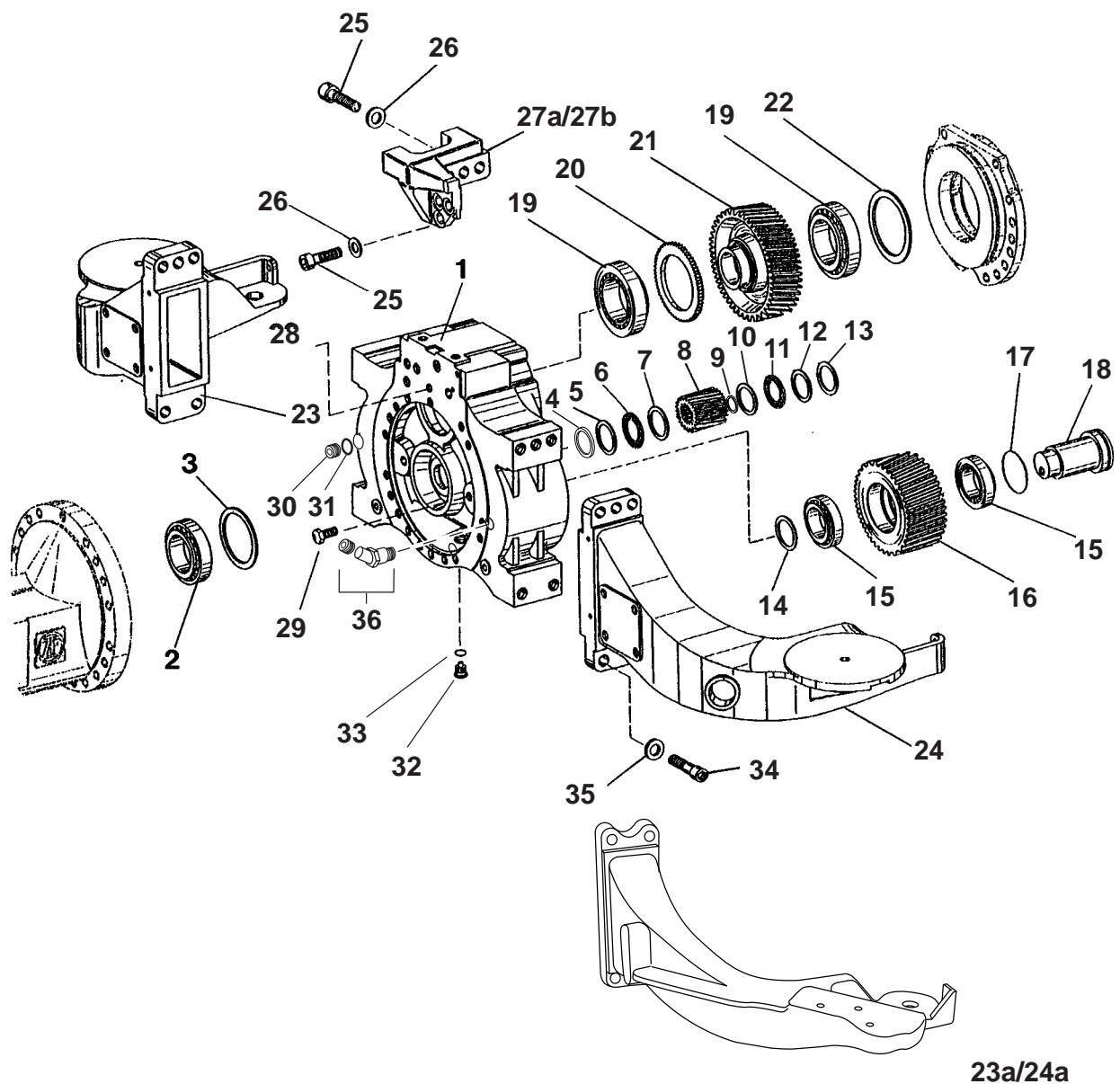
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|--------------|------------|---------|
| | SUSPENSION | | | |
| 1 | Long control arm - 576 mm | 2 | 656995-80 | |
| 2 | Long control arm - 664 mm | 2 | 656995-81 | |
| 3 | Screw | 8 | 656995-82 | |
| | USED ON & UP TO CHASSIS No 1299 to 2728 | | | |
| | AXLE CASING | Vo/Zf | | |
| 1a | Axle casing | 1 | 656995-20 | |
| 2a | Stub shaft - short | 1 | 658517-5 | |
| 3a | Stub shaft - long | 1 | 658517-6 | |
| 4a | O ring | 2 | 656995-23 | |
| 5a | Bearing | 1 | 656995-24 | |
| 6a | Shim | A/R | - | |
| 7a | Stud | 4 | 656995-25 | |
| 8a | Washer | 4 | 656995-26 | |
| 9a | Nut | 4 | 656995-27 | |
| 10a | Capscrew | 19/20 | 658517-7 | |
| 11a | Washer | 35/37 | 656995-26 | |
| 12a | Drain plug - casing | 1 | 658517-8 | |
| | "O" ring - drain plug | 1 | 656995-133 | |
| 13a | Pin | 2 | 656995-30 | |
| 14a | Console | 1 | 656995-31 | |
| 15a | Setscrew | 6 | 656995-32 | |
| 16a | Washer | 6 | 656995-33 | |
| 17a | Capscrew | 12/13 | 656995-34 | |
| 18a | Washer | 35/37 | 656995-26 | |
| 19a | Type plate | 1 | 656995-35 | |
| 20a | Grooved stud | 4 | 650795-8 | |
| | USED ON & AFTER CHASSIS No 2729 | | | |
| | AXLE CASING - LIGHTWEIGHT | Vo/Zf | | |
| 1b | Axle casing - lightweight | 1 | 659921-5 | |
| 2b | Stub shaft - short | 1 | 659921-6 | |
| 3b | Stub shaft - long | 1 | 659921-7 | |
| 4b | "O" ring | 2 | 656995-23 | |
| 5b | Bearing | 1 | 656995-24 | |
| 6b | Shim | A/R | - | |
| 7b | Stud | 4 | 656995-25 | |
| 8b | Washer | 4 | 656995-26 | |
| 9b | Nut | 4 | 656995-27 | |
| 10b | Capscrew | 19/20 | 659921-9 | |
| 11b | Washer | 35/37 | 656995-26 | |
| 12b | Bracket | 1 | 659921-8 | |
| 13b | Drain plug - casing | 1 | 658517-8 | |
| | "O" ring - drain plug | 1 | 656995-133 | |
| 14b | Capscrew | 12/13 | 656995-34 | |
| 15b | Washer | 35/37 | 656995-26 | |
| 16b | Type plate | 1 | 656995-35 | |
| 17b | Grooved stud | 4 | 650795-8 | |

USED ON & UP TO CHASSIS No 1299 to 2728

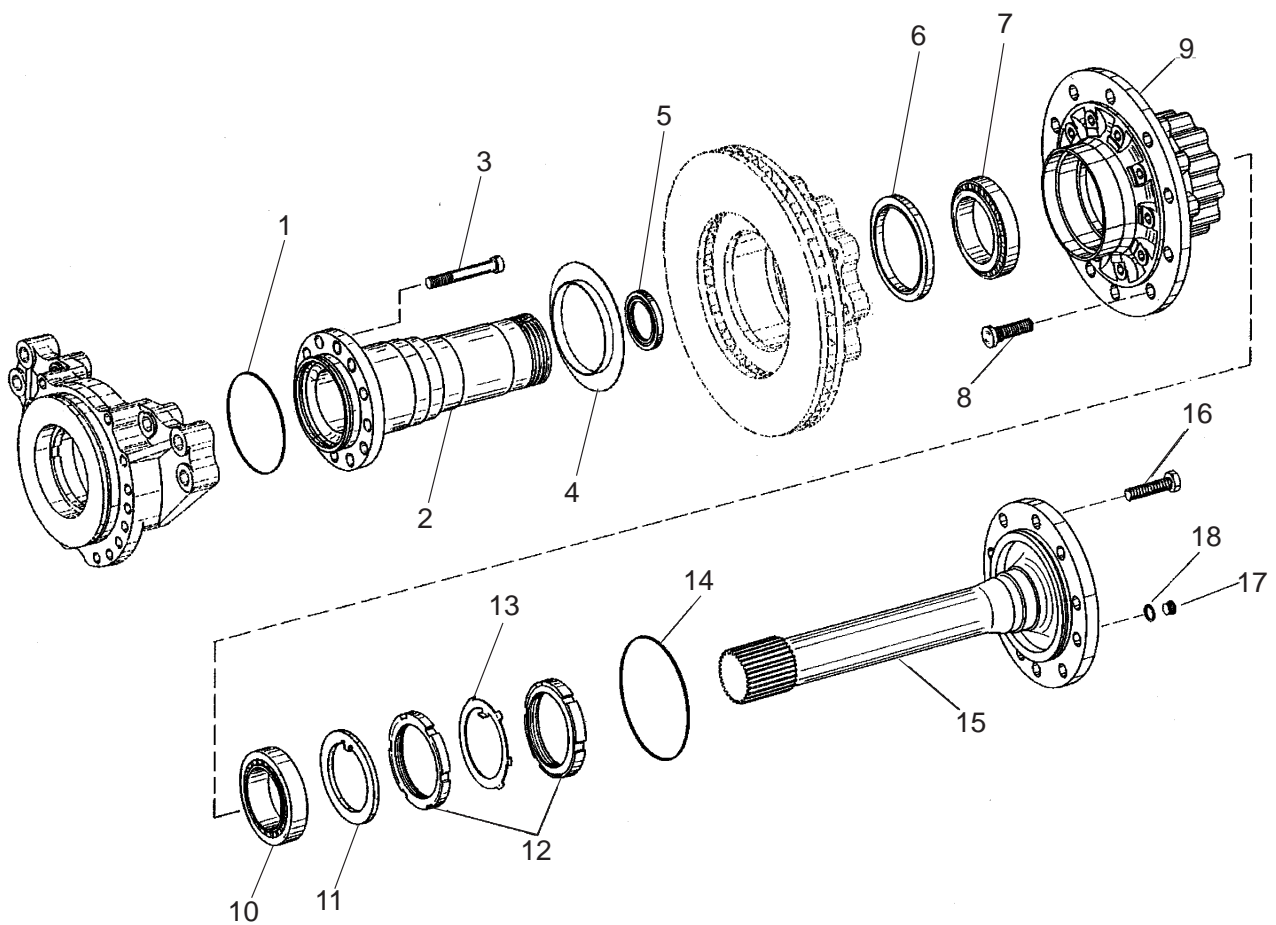


| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------------|--|---------|------------|----------------|
| | USED ON & UP TO CHASSIS No 1299 to 2728 | | | |
| 1a | Gantry housing - LH Voith 5.13:1 | 1 | 658517-41 | |
| 1b | Gantry housing - RH Voith 5.13:1 | 1 | 658517-42 | |
| 1c | Gantry housing - LH ZF 5.74:1 & 6.20:1 | 1 | 658518-2 | |
| ☞ 1d | Gantry housing - RH ZF 5.74:1 & 6.20:1 | 1 | 658518-3 | |
| 2 | Bearing | 1 | 656995-38 | |
| 3 | Shim | A/R | - | |
| 4 | Housing disc | 2 | 656995-39 | |
| 5 | Roller cage | 2 | 656995-40 | |
| 6 | Plate | 2 | 656995-41 | |
| ☞ 7 | Cup spring | 2 | 658517-10 | |
| 8 | Input gear | 1 | 656995-42 | |
| 9 | Axle bearing | 2 | 656995-43 | |
| 10 | Cup Spring | 2 | 658517-44 | |
| 11 | Shim | A/R | - | |
| 12 | Bearing - idle gear | 8 | 656995-44 | |
| 13 | Idler gear | 4 | 656995-45 | |
| 14 | 'O' ring | 4 | 656995-46 | |
| 15 | Idle bearing pin | 4 | 656995-47 | |
| 16 | Bearing - output gear | 2 | 656995-48 | |
| 17 | Pulse disc | 2 | 656995-49 | |
| 18 | Output gear | 2 | 656995-50 | |
| 19 | Shim | A/R | - | |
| ☞ 20 | Console - LH | 1 | 656995-51 | |
| | Console - RH | 1 | 656995-52 | |
| 21 | Capscrew | 12 | 656995-53 | |
| 22 | Washer | 12 | 656995-33 | |
| 23a | Spring carrier - RH | 1 | 658517-12 | |
| ☞ 23b | Spring carrier - LH | 1 | 658517-11 | |
| 24 | See Note 1 | - | - | |
| 25 | Setscrew | 4 | 656995-57 | |
| ☞ 26 | See Note 2 | - | - | |
| 27 | Level plug - gantry | 1 | 656995-132 | |
| 28 | "O" ring - level plug | 1 | 656995-133 | |
| 29 | Capscrew | 20 | 656995-59 | |
| 30 | Washer | 20 | 656995-60 | |
| Note 1 | BREATHER RELOCATION KIT | | | SL1692 |
| ☞ 24 | Breather - (not included in kit) | 1 | 656995-56 | |
| | Breather pipe | 1.4m | 654994 | |
| | Elbow | 1 | 659962 | |
| | Cable tie | 3 | 607007 | |
| | This kit relocates the rear axle breather exit to the end of the suspension link arm. | | | |
| ☞ | | | | |
| Note 2 | All Axles used on and after Chassis No 1789 has a revised casting which increases the oil level by repositioning the level plug | | | |
| | Kit - Axle filler mod : 45° elbow, nut & "O"ring | 1 | 656996-5 | Free of Charge |

USED ON & AFTER CHASSIS No 2729



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|------------|------------------------|
| | USED ON & AFTER CHASSIS No 2729 | | | |
| 1a | Gantry housing - LH ZF 5.74:1 & 6.20:1 | 1 | 659921-10 | |
| 1b | Gantry housing - RH ZF 5.74:1 & 6.20:1 | 1 | 659921-11 | |
| 2 | Bearing | 1 | 656995-38 | |
| 3 | Shim | A/R | - | |
| 4 | Cup spring | 2 | 658517-10 | |
| 5 | Housing disc | 2 | 656995-39 | |
| 6 | Roller cage | 2 | 656995-40 | |
| 7 | Plate | 2 | 656995-41 | |
| 8 | Input gear | 1 | 659921-12 | |
| 9 | Retaining ring | 2 | 659921-14 | |
| 10 | Plate | 2 | 659921-15 | |
| 11 | Roller cage | 2 | 659921-16 | |
| 12 | Housing disc | 2 | 659921-17 | |
| 13 | Cup spring | 2 | 659921-18 | |
| 14 | Shim | A/R | - | |
| 15 | Bearing - idle gear | 8 | 659921-19 | |
| 16 | Idler gear | 4 | 656995-45 | |
| 17 | 'O' ring | 4 | 656995-46 | ser 515661> uses qty 2 |
| 18 | Idle bearing pin | 4 | 656995-47 | |
| 19 | Bearing - output gear | 2 | 656995-48 | |
| 20 | Pulse disc | 2 | 656995-49 | |
| 21 | Output gear | 2 | 656995-50 | |
| 22 | Shim | A/R | - | |
| 23 | Spring carrier - LH rear & RH front | 1 | 658517-12 | AR1511G&H |
| 24 | Spring carrier - LH front & RH rear | 1 | 658517-11 | AR1511G&H |
| 23a | Spring carrier - LH rear & RH front (lightweight) | 1 | 660426-1 | AR1511J&K |
| 24a | Spring carrier - LH front & RH rear (lightweight) | 1 | 660426-2 | AR1511J&K |
| 25 | Capscrew | 12 | 656995-53 | |
| 26 | Washer | 12 | 656995-33 | |
| 27a | Console - LH | 1 | 656995-51 | |
| 27b | Console - RH | 1 | 656995-52 | |
| 28 | Breather | 1 | 659921-20 | |
| 29 | Setscrew | 4 | 656995-57 | |
| 30 | Level plug - gantry | 1 | 656995-132 | |
| 31 | "O" ring - level plug | 1 | 656995-133 | |
| 32 | Drain plug - gantry- | 2 | 656995-125 | |
| 33 | "O" ring - drain plug | 2 | 659921-13 | |
| 34 | Capscrew | 20 | 658517-13 | |
| 35 | Washer | 20 | 656995-60 | |
| 36 | Kit - Axle filler mod | 1 | 656996-5 | |



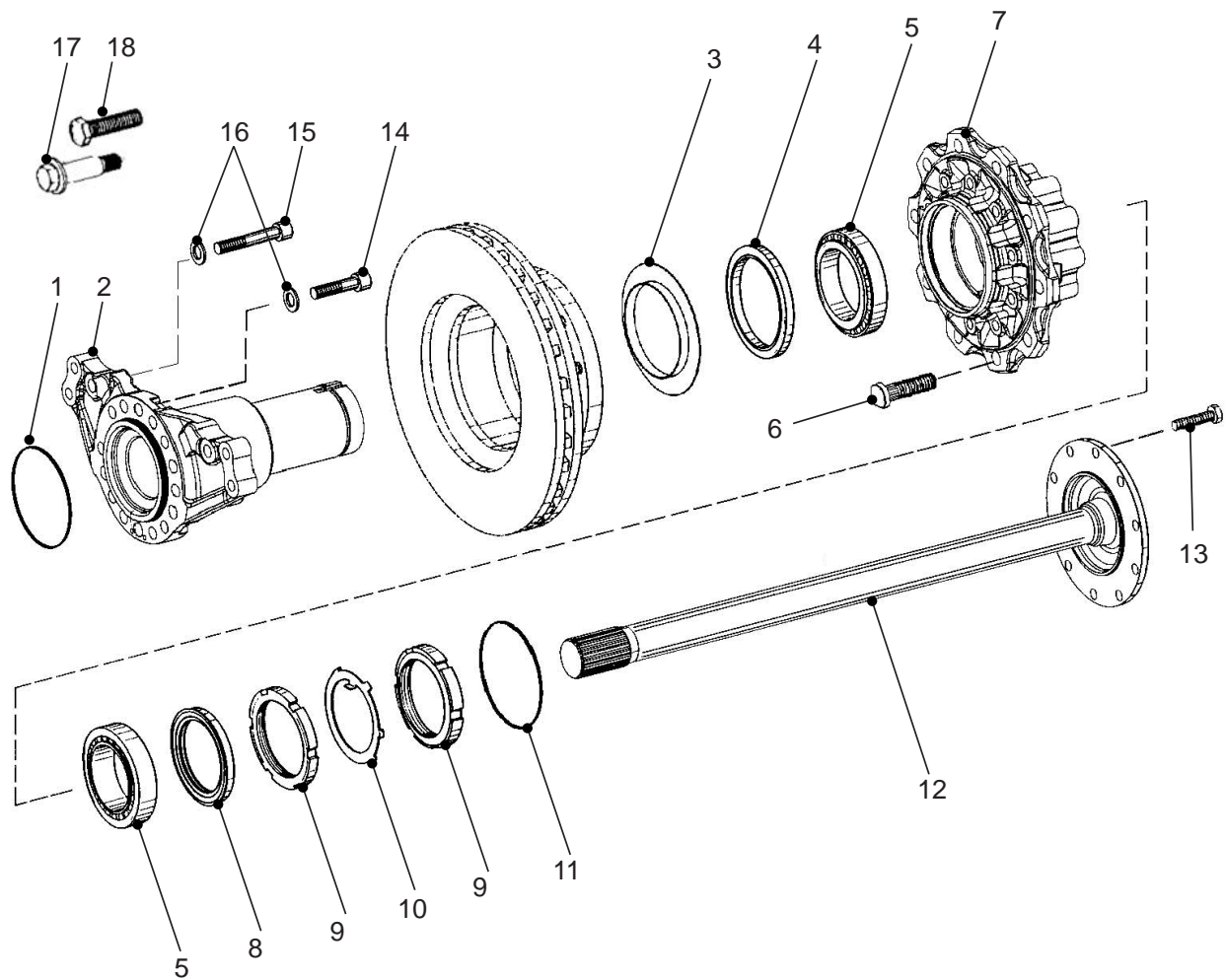
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|-----------------|---------------|
| | Used on and after Chassis No 1299 | | | |
| 1 | O ring | 2 | 656995-61 | |
| 2 | Hub carrier | 2 | 656995-62 | |
| 3 | Cap screw - hub carrier | 24 | 658517-45 | |
| 4 | Screen Sheet | 2 | 659921-21 | |
| 5 | Seal - flange shaft | 2 | 658517-18 | |
| 6 | Seal - hub carrier | 2 | 656995-65 | |
| 7 | Bearing - hub carrier | 2 | 658517-15 | |
| 8 | Wheel bolt | 20 | 659334-12 | |
| | Wheel nut - non capped | 20 | 651043-4 | 610 Nm |
| | Cover - wheel nut | 20 | 245183-2 | |
| 9 | Hub | 2 | 658517-14 | |
| 10 | Bearing flange | 2 | 656995-74 | |
| 11 | Support shim | 2 | 656995-67 | |
| 12 | Slotted nut | 4 | 656995-68 | |
| 13 | Tab washer | 2 | 656995-69 | |
| 14 | 'O' ring -shaft seal | 2 | 658517-43 | |
| 15 | Flange shaft | 2 | 658517-16 | |
| 16 | Screw | 20 | 658517-19 | |
| 17 | Screw plug | 2 | 656995-79 | |
| 18 | Sealing ring | 2 | 656995-75 | |
| | HUB ODOMETER | | AL1527-1 | |
| | Hub odometer - o/s rear | 1 | 659385 | Bolts - 440Nm |

OUTPUT ASSEMBLY-GREASE FILLED PARTS MANUAL

AMENDED:260905

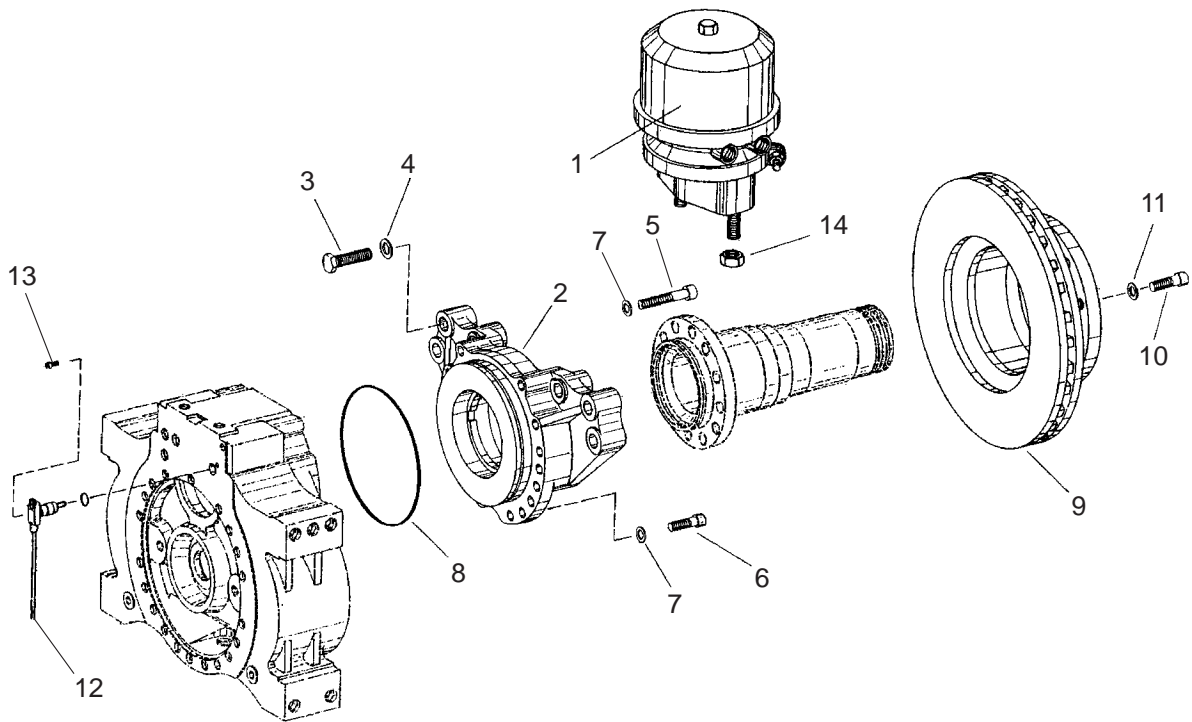
UNIT NO:AR1511J&K

USED ON & AFTER CHASSIS No 3370



660426/660425

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|-----------|---------|
| | Used on and after Chassis No 3370 | | | |
| 1 | O ring | 2 | 656995-83 | |
| 2 | Hub carrier | 2 | 660426-3 | |
| 3 | Screen Sheet | 2 | 659921-21 | |
| 4 | Seal - flange shaft | 2 | 660426-4 | |
| 5 | Bearing - hub carrier | 2 | 660426-5 | |
| 6 | Wheel bolt | 20 | 660426-6 | |
| | Wheel nut - non capped | 20 | 651043-4 | 610 Nm |
| | Cover - wheel nut | 20 | 245183-2 | |
| ☞ 7 | Hub | 2 | 660426-7 | |
| ☞ 8 | Shaft seal | 2 | 660426-8 | |
| ☞ 9 | Slotted nut | 4 | 656995-68 | |
| ☞ 10 | Tab washer | 2 | 656995-69 | |
| ☞ 11 | 'O' ring -shaft seal | 2 | 658517-43 | |
| ☞ 12 | Flange shaft | 2 | 660426-9 | |
| ☞ 13 | Screw | 20 | 658517-19 | |
| ☞ 14 | Capscrew - 70mm lg | 12 | 658517-22 | |
| ☞ 15 | Capscrew - 110mm lg | 20 | 658517-23 | |
| ☞ 16 | Washer | 32 | 659995-19 | |
| ☞ 17 | Bolt - fitted - caliper carrier to axle | 2 | 660426-11 | |
| ☞ 18 | Bolt - caliper carrier to axle | 10 | 660426-10 | |

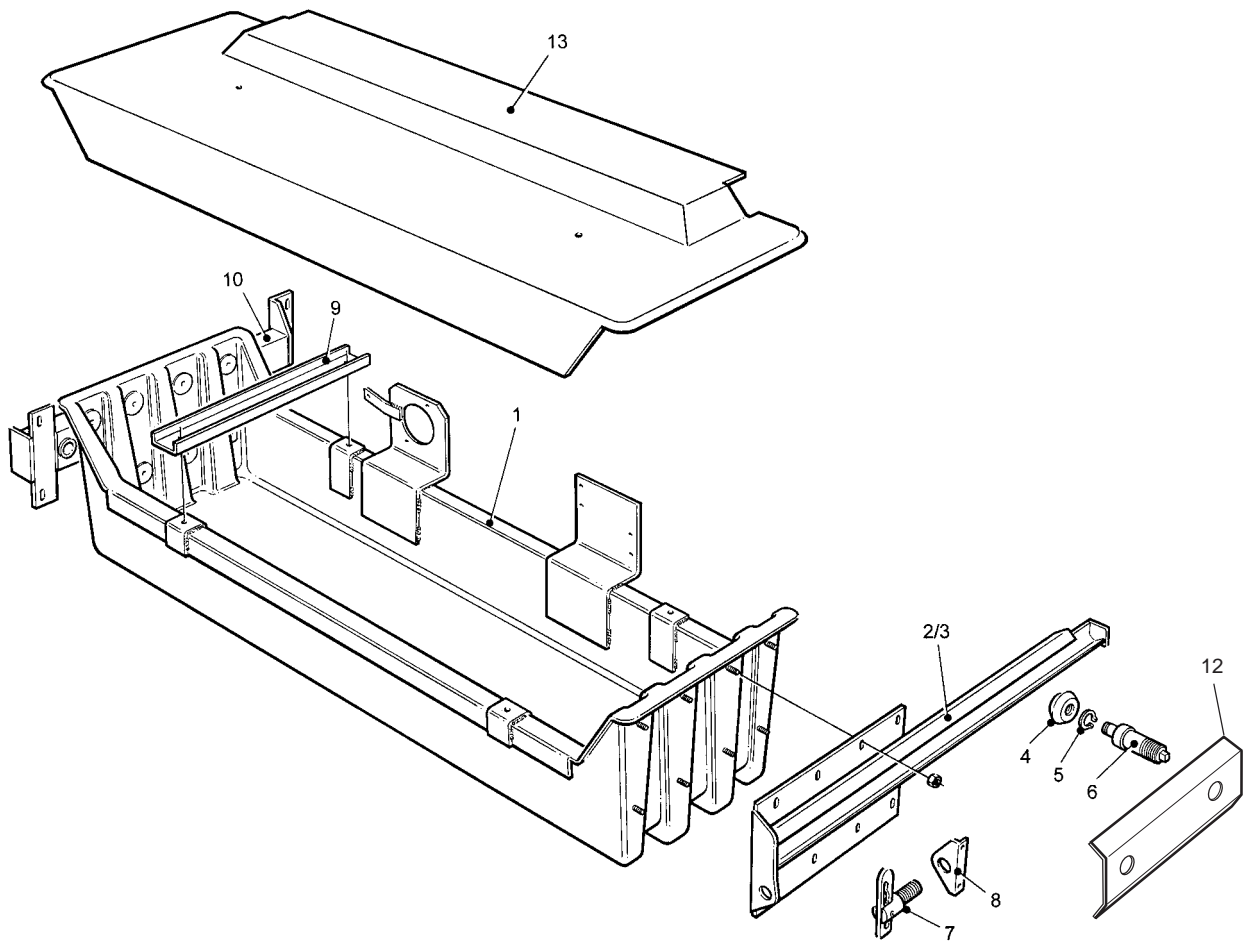


| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|-------------|---------|
| | DISC BRAKE VEHICLES Used on and after Chassis No 1299 | | | |
| 1a | Rear brake actuator -LH - (See separate list) | 1 | 658517-38 | |
| 1b | Rear brake actuator -RH - (See separate list) | 1 | 658517-39 | |
| 2 | Brake anchor plate | 2 | 658517-20 | |
| 3 | Cap screw - brake anchor | 12 | 658517-21 | |
| 4 | Washer - brake anchor | 12 | 656995-33 | |
| 5 | Cap screw - 70mm Lg anchor plate to gantry | 20 | 658517-22 | |
| 6 | Cap screw - 115mm Lg anchor plate to gantry | 12 | 658517-23 | |
| 7 | Washer - capscrew anchor plate | 32 | 656995-26 | |
| 8 | "O" ring - brake anchor plate | 2 | 656995-83 | |
| 9 | Brake disc | 2 | See Braking | |
| 10 | Cap screw - brake disc | 20 | 658517-24 | |
| 11 | Washer - cap screw - brake disc | 20 | 658517-25 | |
| 12 | ABS sensor | 2 | 658517-26 | |
| 13 | Capscrew- rev counter | 2 | 656995-111 | |
| 14 | Locking nut - brake actuator | 2 | 658517-27 | |

DENNIS

SECTION 3.1

Battery carrier assemblyPage 3.1.3



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|-------------|---------|
| | Used on and after Chassis No 1299 | | | BC1511A |
| 1 | Battery carrier tray assembly - cover type | 1 | 425792 | |
| | Mat - carrier tray | 2 | 424496 | |
| 2 | Slide - LH | 1 | 435449 | |
| 3 | Slide - RH | 1 | 435450 | |
| | Setscrew | 16 | MCS 108 25P | |
| | Washer- plain | 4 | WMA 8SP | |
| | Washer - large | 28 | 652361 | |
| | Nut | 16 | MCN 708P | |
| 4 | Roller assembly comprising: | 4 | 420616 | |
| | Roller | 4 | 656359 | |
| | Bearing | 4 | 420617 | |
| | Loctite | A/R | 606614 | |
| | Cap - plastic - thread protector | 4 | 659221 | |
| 5 | Circlip | 4 | 656382 | |
| 6 | Shaft - roller | 4 | 420701 | |
| | Nut | 4 | MCN 220P | |
| | Washer - plain | 4 | WMA20SP | |
| | Washer - "C" | 4 | 427480 | BC1511E |
| 7 | Fastener "Antiluce" | 2 | 656376 | |
| | Nut | 2 | MCN 512P | |
| 8 | Retaining bracket | 2 | 430625 | |
| | Setscrew | 3 | MCS 110 25P | |
| | Washer | 3 | WMA 10SP | |
| | Nut | 3 | MCN 510P | |
| 9 | Battery Retainer - c/w rubber strip | 2 | 426414 | |
| | Setscrew | 4 | MCS 106 45P | |
| | Washer - flat | 4 | 109400 | |
| | Washer - plain | 4 | WMA 6SP | |
| | Washer - spring | 4 | WMC 6SP | |
| | Nut | 8 | MCN 106P | |
| 10a | Support arm - rear | 1 | 430396 | |
| | Setscrew | 2 | MCS 110 35P | |
| | Setscrew | 2 | MCS 110 30P | |
| | Washer - spring | 4 | WMA 10SP | |
| | Washer - plain | 4 | WMC 10SP | |
| | Nut | 4 | MCN 510P | |

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|--------------|---------|
| 11 | Battery 12v | 2 | 656334 | |
| 12a | Shield - rear | 1 | 422843 | |
| 12b | Shield - front | 1 | 430434 | |
| 13 | Battery cover assembly | 1 | 425509 | |
| | Tie | 2 | 657722 | |
| | Nut | 2 | MCN 705P | |
| | Screw | 2 | MCS 1905 16P | |
| | Mounting bracket - master switch | 1 | 429872 | |
| | Used on and after Chassis No 2400 & 2544 onwards | | | BC1511D |
| 10b | Support arm - rear | 1 | 434720 | |
| | Setscrew | 2 | MCS 110 25P | |
| | Setscrew | 2 | MCS 110 30P | |
| | Bracket - slotted - 4 hole | 1 | 434726 | |
| | Bracket - slotted - 5 hole | 1 | 434727 | |

DENNIS

SECTION 3.2

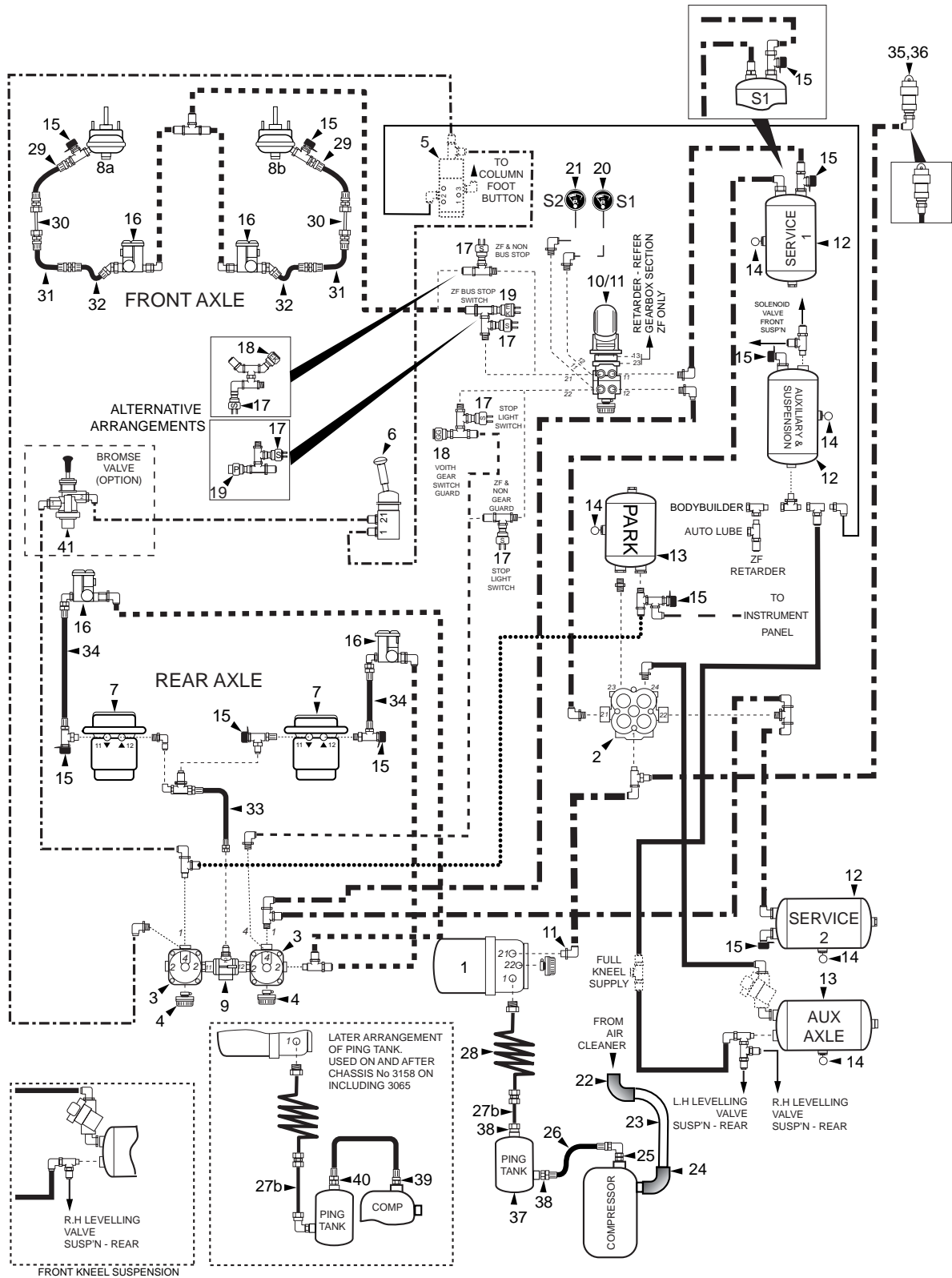
| | | |
|--|------|-------------|
| ABS Braking system | Page | 3.2.2 - 5 |
| ABS Pipe fittings | Page | 3.2.6 - 7 |
| Brake chambers and actuators | Page | 3.2.8 - 9 |
| Front & Rear brake calipers | Page | 3.2.10 - 17 |
| Footbrake valve assembly - ZF | Page | 3.2.18 - 19 |
| Footbrake valve assembly - Voith | Page | 3.2.20 - 21 |
| Footbrake valve assembly - Wabco | Page | 3.2.22 - 23 |
| Air Dryer | Page | 3.2.24 - 25 |
| Handbrake interlock - AL1511-1 | Page | 3.2.26 - 27 |
| Compressor | Page | 3.2.28 - 29 |

ABS BRAKING SYSTEM

PARTS MANUAL

AMENDED:140104

UNIT NO:FB1512.A-D,F,H&J.FB1515A-D,FG&H.FB1517A-D.FB1519A,B&F.



| KEY TO PIPE SIZES | | | |
|-------------------|-------------|-------------|-----------|
| 16mm Red | 12mm Orange | 6mm Yellow | 4mm Black |
| 12mm Red | 10mm Orange | 12mm Yellow | |
| 10mm Red | 6mm Orange | 12mm Green | |

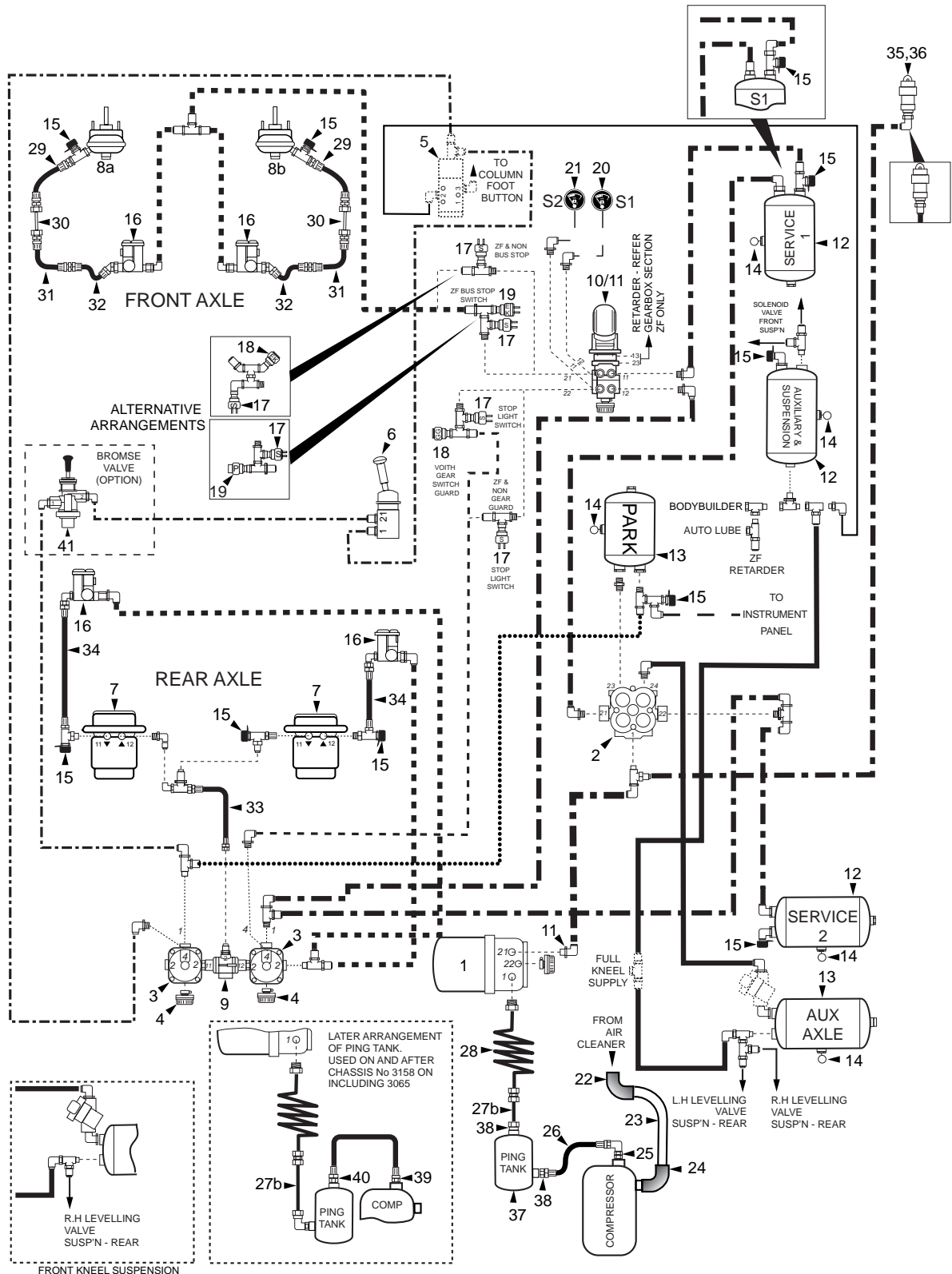
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|-----------|--------------|
| 1 | Air dryer (see separate list) | 1 | 657516 | |
| 2 | Quadruple - circuit protection valve | 1 | 656249 | |
| 3 | Relay valve - integral silencer | 2 | 659372 | |
| 4 | Silencer - relay valve & air dryer | 3 | 658644 | |
| 5 | Pilot valve (see steering gear section) | 1 | 654201 | |
| 6 | Handbrake valve | 1 | 657493--x | |
| | Clear tube - exhaust | A/R | 651787 | |
| 7 | Brake actuator rear (see separate list) | 2 | 658517-38 | |
| 8a | Brake chamber - front LH (see separate list) | 1 | 658470-47 | |
| 8b | Brake chamber - front RH (see separate list) | 1 | 658470-48 | |
| 9 | Double check valve | 1 | 654734 | |
| | Used on and up to Chassis No: 2113, 2118 to 2129 2131, 2132 2142 to 2144, 2196 - 2198 | | | |
| 10a | Footbrake valve - Voith (see separate list) | 1 | 656185 | FB15121 |
| 11a | Footbrake valve - ZF (see separate list) | 1 | 657186 | FB1512 |
| | Used on and after Chassis No :2114 to 2117, 2130 2133 to 2141, 2145 onwards | | | |
| 10b | Footbrake valve - Voith (see separate list) | 1 | 659776 | FB1515 |
| 11b | Footbrake valve - ZF (see separate list) | 1 | 659776 | FB1515 |
| 12 | Reservoir - 25 litre - Service 1&2 , Aux & Susp'n | 3 | 654979-9 | |
| 13 | Reservoir - 20 litre - Park, Aux & Susp'n 2 | 2 | 654979-6 | |
| | Tee bolt clip - 10" | 10 | 656616-2 | |
| ☞ | Rubber Strip - reservoirs | A/R | 656768 | |
| 14 | Drain valve | 5 | 654728 | |
| 15 | Test point | 8 | 655026 | |
| 16 | ABS valve | 4 | 658879 | |
| | Bracket - hose support - rear - LH - ABS | 1 | 424124 | |
| | Bracket.- hose support - rear - RH - ABS | 1 | 428340 | |
| 17 | Stop switch | 2 | 659171 | |
| 18a | Pressure switch - Voith - "Bus stop" | 1 | 657042-6 | |
| 18b | Pressure switch - ZF - "Bus stop" | 1 | 656626-6 | |
| 19 | Pressure switch - "gearguard" | 1 | 658313 | |
| 20 | Gauge - Air 1 - c/w integral Low Pressure switch | 1 | 656130 | |
| 21 | Gauge - Air 2 - c/w integral Low Pressure switch | 1 | 656131 | |
| ☞ | Pressure switch - gauge | 1 | 656447 | |
| 22 | Hose elbow - air intake pipe to pipe | 1 | 650513 | |
| 23 | Pipe assembly-elbow to elbow | 1 | 431949 | |
| | Clip | 4 | 656818-7 | |
| 24 | Hose elbow - pipe to compressor | 1 | 424150 | (434255) |
| 25 | Elbow - pipe to compressor | 1 | 654935 | 107 - 119 Nm |
| 26 | Hose assembly - compressor to ping tank | 1 | 657446-3 | |
| 27a | Pipe assembly - ping tank to coil (see drawing) | 1 | 426686 | |
| 27b | Pipe assembly - ping tank to coil (see drawing) | 1 | 437914 | |
| 28 | Pipe assembly - air dryer coil | 1 | 430083 | |

PARTS MANUAL

ABS BRAKING SYSTEM

AMENDED:140104

UNIT NO:FB1512.A-D,F,H&J.FB1515A-D,FG&H.FB1517A-D.FB1519A,B&F.



| | | | |
|--|--|--|-------------------|
| | | | KEY TO PIPE SIZES |
| | | | |
| | | | |
| | | | |

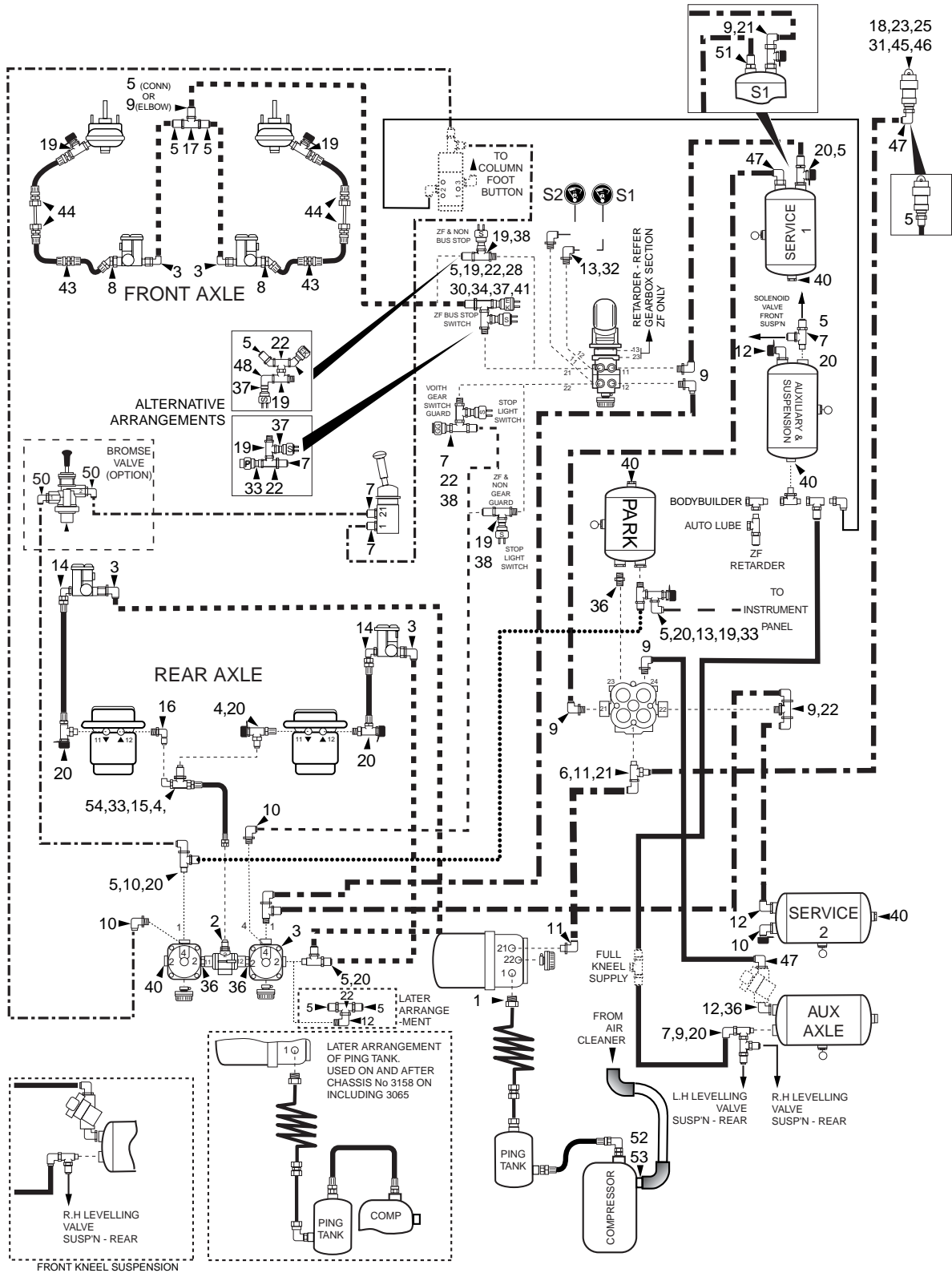
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|----------|-------------------|
| 29 | Hose assembly - front brake chamber | 2 | 655025 | |
| | Bracket - front air pipes | 2 | 417043 | |
| | Bracket - front brake chamber - hose to axle "L" | 2 | 426963 | |
| | Armour guard | A/R | 610561-3 | |
| | Clip | 2 | 610029-9 | |
| | Used on and up to Chassis No's :1357-1359,1361,1363-1377,1381-1385,1396-1400. | | | |
| 30a | Pipe assembly - front brake chamber hose - | 2 | 429605 | 133 leg x 104 leg |
| | Bulkhead bracket - hose to pipe - side of hub | 2 | 417043 | |
| | Used on and after Chassis No's :1356,1360,1362,1378-1380,1386-1395,1401,1403 - 1474 | | | |
| 30b | Pipe assembly - front brake chamber hose - | 2 | 431411 | 188 leg x 104 leg |
| | Bulkhead bracket - hose to pipe - side of hub | 2 | 431400 | |
| | Used on and after Chassis No's 1475,1485,1536,1549,1565,1568& 1571. | | | |
| 30c | Pipe assembly - front brake chamber hose - L.H | 2 | 432146 | |
| | Bracket - pipe assembly - L.H - base of hub - "Z" | 1 | 432004 | |
| 30d | Pipe assembly - front brake chamber hose - R.H | 2 | 432147 | |
| | Bracket - pipe assembly - R.H - base of hub - "Z" | 1 | 432005 | |
| | Bulkhead bracket - hose to pipe - side of hub | 2 | 431400 | |
| 31 | Hose assembly - pipe to hose | 2 | 659092 | |
| | Axle bracket - hose to pipe.- "L" | 2 | 426963 | |
| 32 | Hose assembly - ABS valve | 2 | 657727 | |
| | Used on & upto Chassis No 3157 not inc 3065 | | | |
| ☞ 33a | Hose assembly - relay valve to tee | 1 | 655749 | |
| 34a | Hose assembly - ABS valve to actuator | 2 | 655749 | |
| | Used on & after Chassis No 3158 inc 3065 | | | |
| ☞ 33b | Hose assembly - relay valve to tee | 1 | 660314 | |
| 34b | Hose assembly - ABS valve to actuator | 2 | 660314 | |
| 35 | Charge coupling | 1 | 658019 | |
| | Cap & chain | 1 | 606394 | |
| 36 | Non return valve | 1 | 654733 | |
| 37 | Pink tank (straight threaded ports) | 1 | 660090 | (657314) |
| 38 | Adaptor - (must be used with ping tank 660090) | 2 | 654909-2 | 65 Nm |
| | Bracket - ping tank | 1 | 426689 | |
| | Clip | 1 | 611005-7 | |
| 39 | Adaptor - compressor outlet | 1 | 654909-1 | |
| 40 | Adaptor - ping tank inlet | 1 | 654909-2 | |
| 41 | Bromse brake valve | 1 | 660247 | AL1533-1 |
| | Knob - valve | 1 | 660248 | |
| | Spacer - valve | 1 | 437102 | |

ABS PIPE FITTINGS

PARTS MANUAL

AMENDED:220908

UNIT NO:FB1512.A-D,F,H&J.FB1515A-D,FG&H.FB1517A-D.FB1519A,B&F.



| | | | |
|--|--|--|-------------------|
| | | | KEY TO PIPE SIZES |
| | | | |
| | | | |
| | | | |

PARTS MANUAL**ABS PIPE FITTINGS**

AMENDED:140104

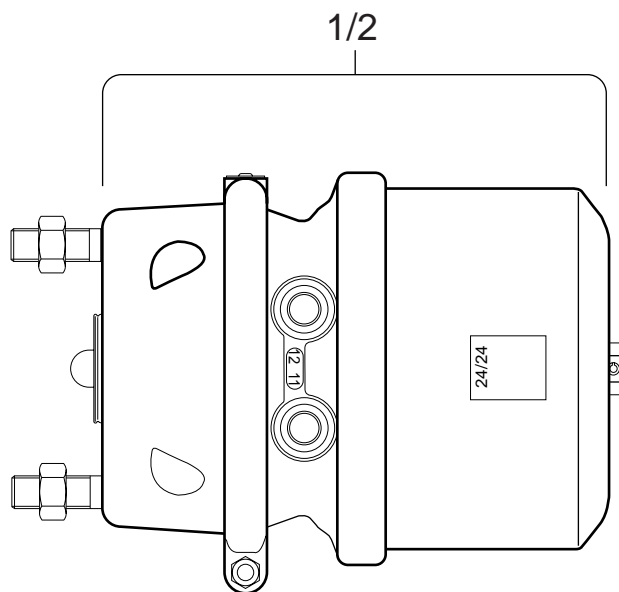
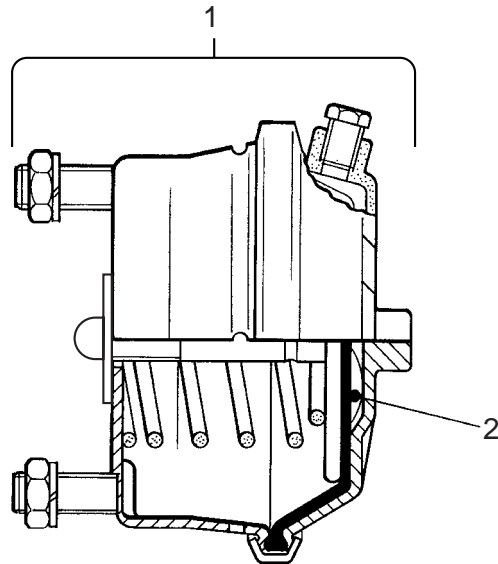
UNIT NO:FB1512.A-D,F,H&J.FB1515A-D,FG&H.FB1517A-D.FB1519A,B&F.

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|-----------------------|---------|-----------|---------|
| 1 | Connector | - | 654909-2 | |
| 2 | Connector | - | 654909-3 | |
| 3 | Connector | - | 654919-4 | |
| 4 | Connector | - | 654921-2 | |
| 5 | Connector | - | 654921-4 | |
| 6 | Connector | - | 654921-5 | |
| 7 | Connector | - | 654921-9 | |
| 8 | Connector | - | 654909-7 | |
| 9 | Elbow | - | 654919-3 | |
| 10 | Elbow | - | 654919-8 | |
| 11 | Elbow | - | 654919-7 | |
| 12 | Elbow | - | 654925 | |
| 13 | Elbow | - | 654947-4 | |
| 14 | Elbow | - | 654933-4 | |
| 15 | Elbow | - | 654919-2 | |
| 16 | Elbow | - | 654919-6 | |
| 17 | Tee piece - bracketed | - | 654922 | |
| 18 | Dowty washer | - | 652921 | |
| 19 | Tee piece | - | 654923-1 | |
| 20 | Tee piece | - | 654923-2 | |
| 21 | Tee piece | - | 654923-3 | |
| 22 | Tee piece | - | 654924 | |
| 23 | Tee piece | - | 655017 | |
| 24 | Dowty washer | - | 655117 | |
| 25 | Bulkhead connector | - | 654912 | |
| 26 | Bulkhead connector | - | 656489 | |
| 27 | Connector | - | 654909-22 | |
| 28 | Adaptor | - | 418461 | |
| 29 | Adaptor | - | 654909-1 | |
| 30 | Adaptor | - | 654938 | |
| 31 | Connector | - | 655234 | |
| 32 | Reducer | - | 654926 | |
| 33 | Reducer | - | 657950-2 | |
| 34 | Reducer | - | 654927-2 | |
| 35 | Reducer | - | 654927-5 | |
| 36 | Reducer | - | 654931 | |
| 37 | Reducer | - | 657950-1 | |
| 38 | Reducer | - | 654927-7 | |
| 39 | Plug | - | 612747 | |
| 40 | Plug | - | 654910 | |
| 41 | Washer | - | 655003 | |
| 42 | Washer | - | 655603 | |
| 43 | Locknut | - | 657835-1 | |
| 44 | Locknut | - | 654960 | |
| 45 | Tube nut | - | 655233 | |
| 46 | Washer | - | WMG 22SP | |
| 47 | Elbow | - | 654919-4 | |
| 48 | Elbow | - | 657240 | |
| 49 | Elbow - 45 | - | 658017 | |
| 50 | Elbow | - | 654919-5 | |
| 51 | Connector | - | 654921-7 | |
| 52 | Connector | - | 424528 | |
| 53 | Dowty seal | - | 652929 | |
| 54 | Bulkhead connector | - | 651447 | |

BRAKE ACTUATOR & CHAMBERS PARTS MANUAL

AMENDED:091205

UNIT NO:FB1512.A-D,F,H&J.FB1515A-D,FG&H.FB1517A-D.FB1519A,B&F.

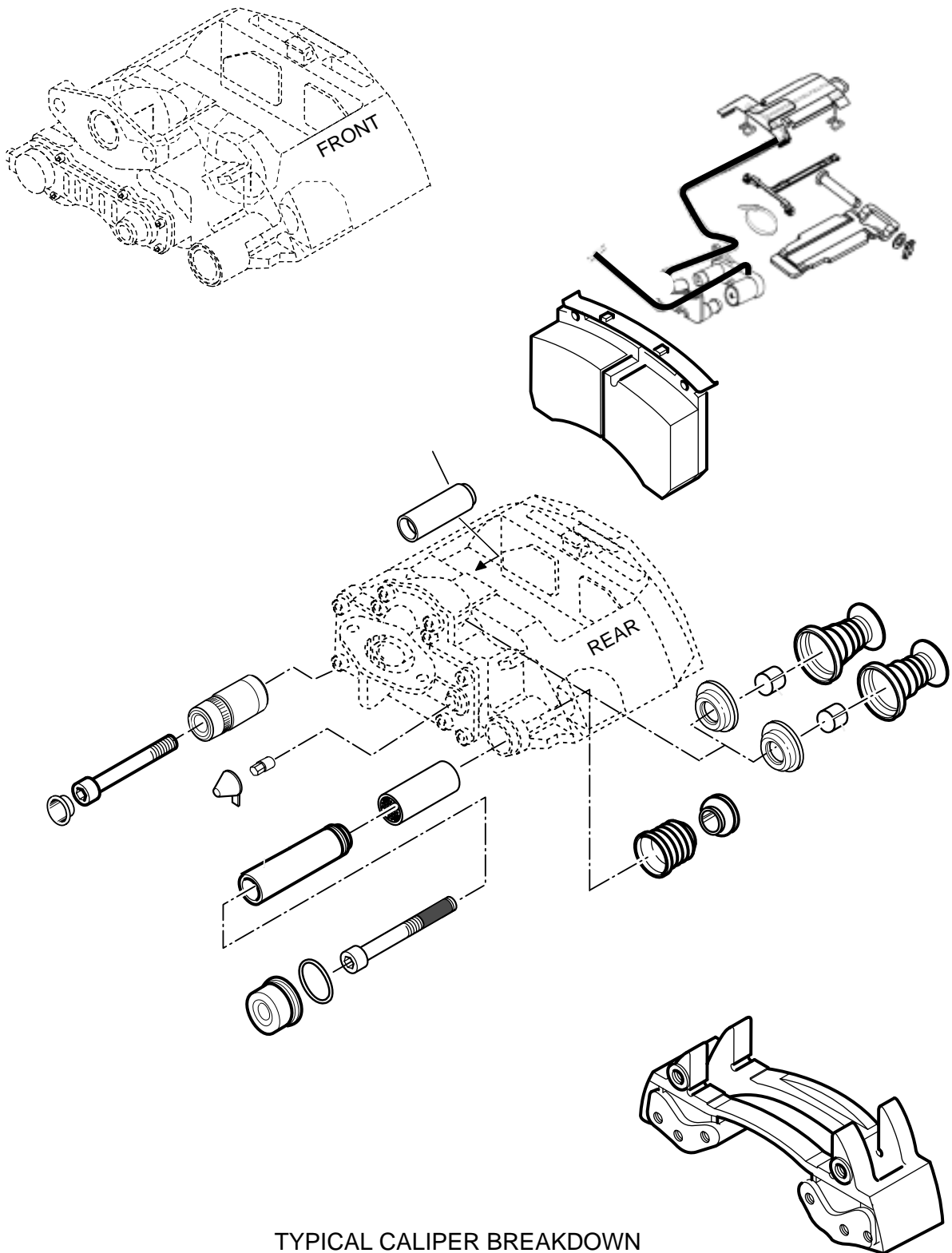


PARTS MANUAL BRAKE ACTUATOR & CHAMBERS

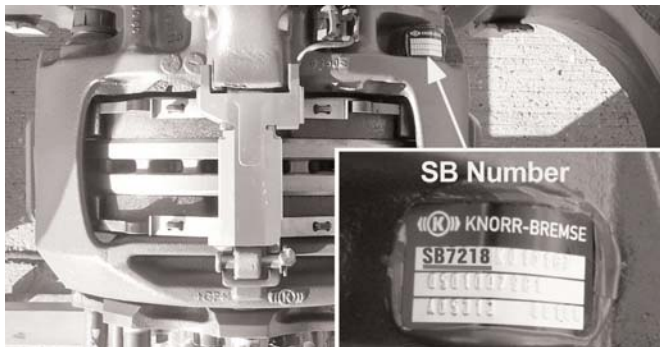
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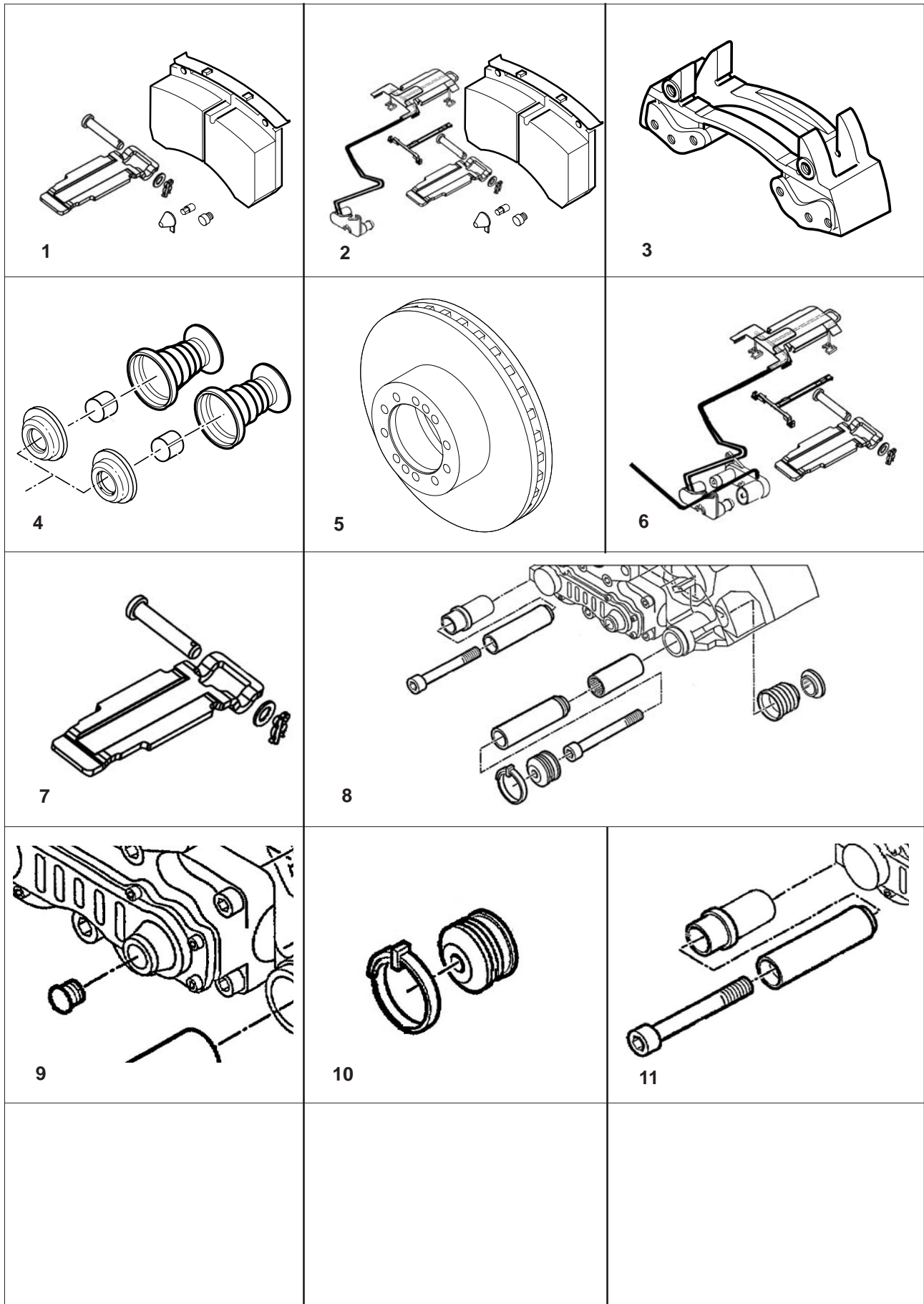
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| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|-----------|---------|
| | DISC BRAKE VEHICLES | | | |
| | Used on and up to Chassis No 2543 except 2400 | | | |
| | FRONT BRAKE CHAMBER - DISC - Type 24 | | | |
| 1a | Brake chamber - LH | 1 | 658470-47 | |
| 1b | Brake chamber - RH | 1 | 658470-48 | |
| 2 | Diaphragm - T24 | 2 | 658470-44 | |
| | Used on & after Chassis No 2400 & 2544 onwards | | | |
| | FRONT BRAKE CHAMBER - DISC - Type 22 | | | |
| 1a | Brake chamber - LH | 1 | 659387-1 | |
| 1b | Brake chamber - RH | 1 | 659387-2 | |
| 2 | Diaphragm - T22 | 2 | 659387-8 | |
| | REAR BRAKE ACTUATOR - DISC | | | |
| 1 | Brake actuator | 2 | 658517-38 | |
| 2 | Diaphragm | 2 | 658470-44 | |

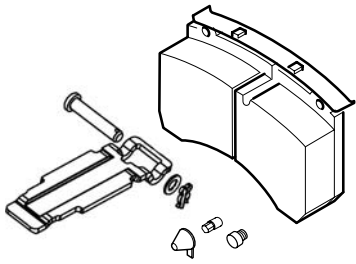
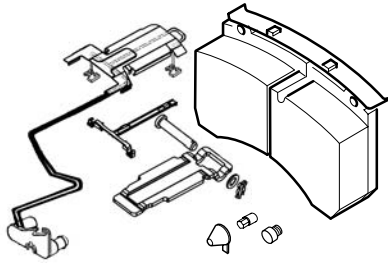
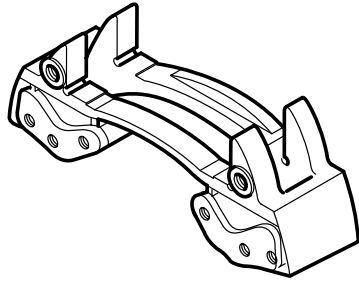
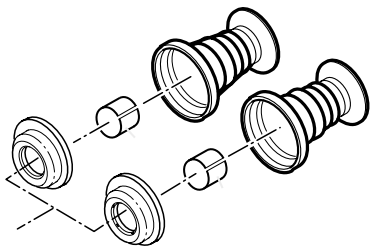
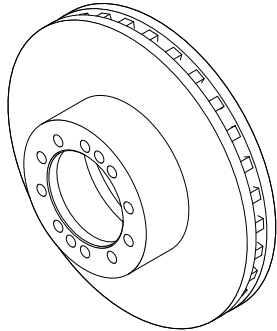
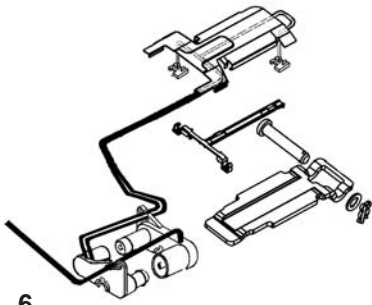
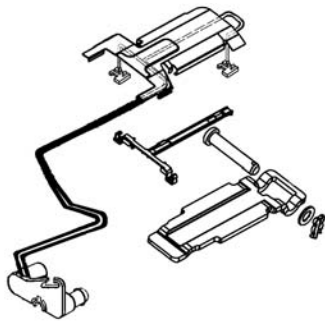
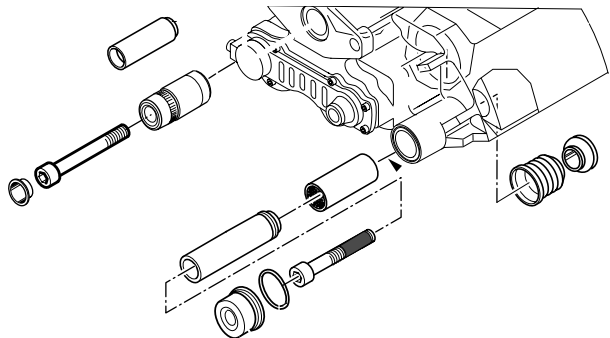
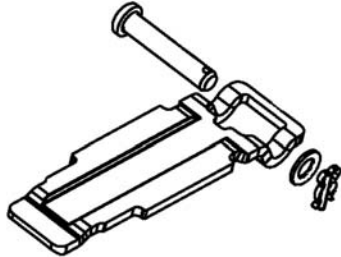
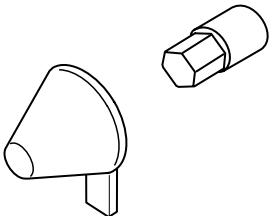
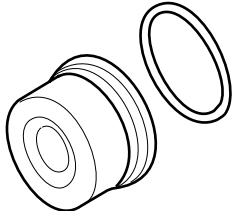


TYPICAL CALIPER BREAKDOWN

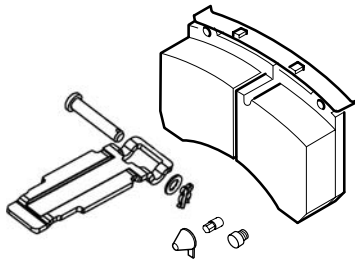
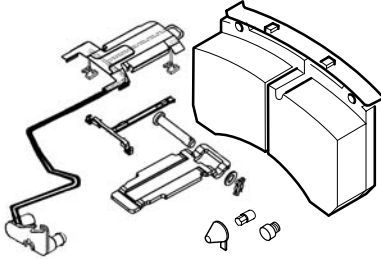
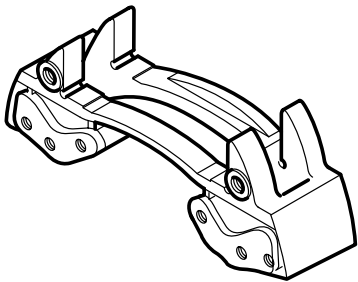
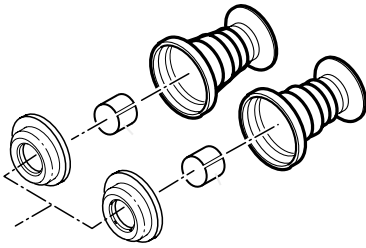
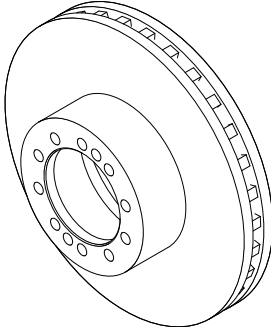
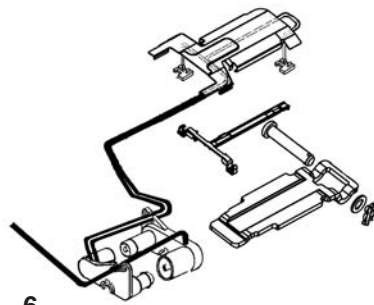
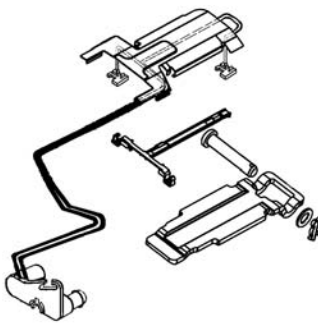
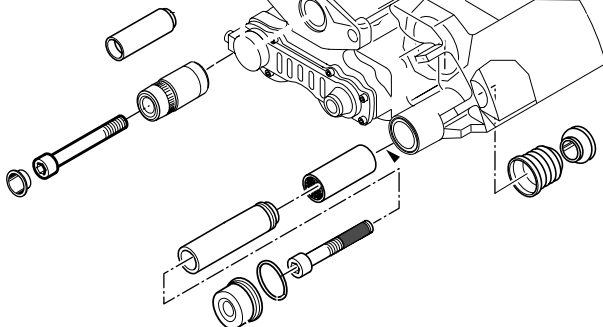
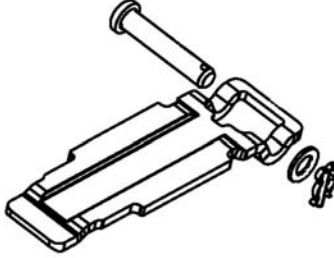
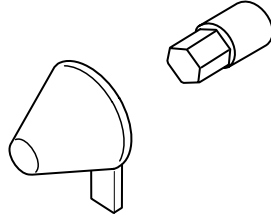
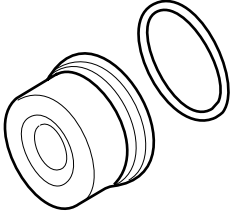
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|--|------------------------------------|---------|-----------|-----------------|
| | Front caliper RH - rationalised | 1 | 660196-1 | SB7434RC |
| | Front caliper LH - rationalised | 1 | 660196-2 | SB7424RC |
| | Front Carrier (for use with above) | 2 | 659387-13 | |
| ☞ | Rear caliper RH - rationalised | 1 | 660426-24 | SB7456RC |
| ☞ | Rear caliper LH - rationalised | 1 | 660426-25 | SB7466RC |
| | Rear Carrier (for use with above) | 2 | 660426-12 | |
| <p>PLEASE NOTE : Rationalised calipers are supplied without pads, carriers or wear indicators. Spares kits for these are on Page 3.2.17</p> | | | | |
| <p>NOTE : If Spares are required for the original fitment caliper, the SB number will need to be known. This can be read off the caliper Identification plate located as shown below.</p> | | | | |
|  | | | | |
| <p>BRAKE CALIPER HISTORY -</p> | | | | |
| <p>Front Left:</p> | | | | |
| | Original Caliper | | SB7873 | 658470-45 |
| | With Shear adaptor: | | SB7919 | 659332-2 |
| | With Isolated tappet: | | SB7972 | 659387-9 |
| | Rationalised unit | 1 | SB7424RC | 660196-2 |
| <p>Front Right:</p> | | | | |
| | Original Caliper: | | SB7863 | 658470-46 |
| | With Shear adaptor: | | SB7909 | 659332-1 |
| | With Isolated tappet: | | SB7962 | 659387-10 |
| | Rationalised unit | 1 | SB7434RC | 660196-1 |
| <p>Rear Left:</p> | | | | |
| | Original Caliper: | | SB7133 | 658517-34 |
| | With Shear adaptor: | | SB7211 | 659334-11 |
| | With Isolated tappet: | | SB7973 | 659921-24 |
| ☞ | Rationalised unit | 1 | SB7466RC | 660426-25 |
| <p>Rear Right:</p> | | | | |
| | Original Caliper: | | SB7123 | 658517-33 |
| | With Shear adaptor: | | SB7201 | 659334-10 |
| | With Isolated tappet: | | SB7963 | 659921-25 |
| ☞ | Rationalised unit | 1 | SB7456RC | 660426-24 |



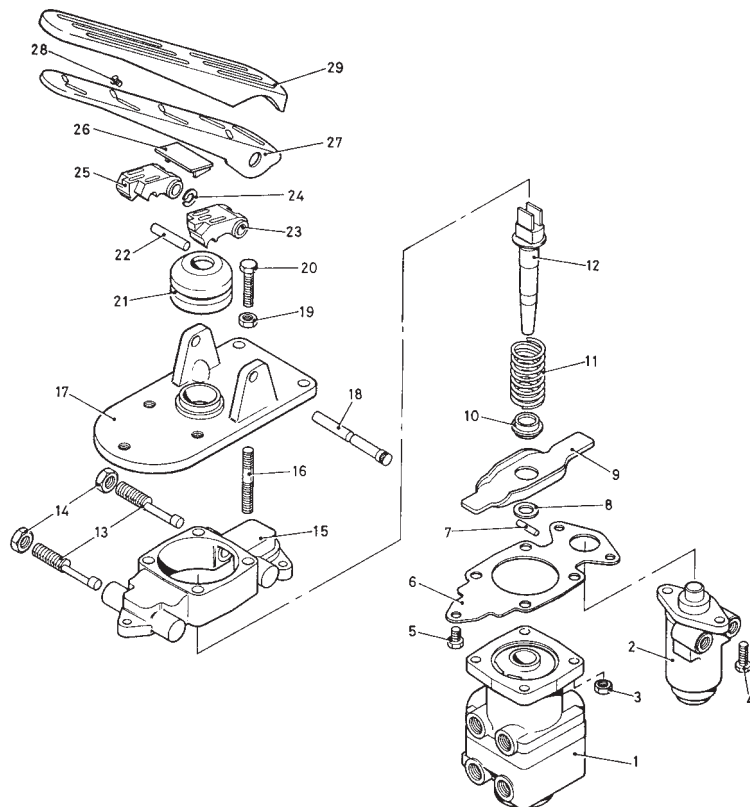
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|------------|---------------|
| | <i>For caliper units See page 3.2.11</i> | | | |
| | Used on & up to Chassis No's : 1755, 1757 to 1760, 1764 & 1765. | | | |
| | Front Caliper RH | | 660196-1 | SB7863 |
| | Front Caliper LH | | 660196-2 | SB7873 |
| | Used on & up to Chassis No's: 1531,1537 to 1671,1674 to 1696, | | | |
| ☞ | Rear Caliper RH | | 660426-24 | SB7123 |
| ☞ | Rear Caliper LH | | 660426-25 | SB7133 |
| 1 | Brake pad kit (axle set) | 1 | 658470-41 | |
| 2 | Brake pad & wear sensor kit (axle set) | 1 | 659956 | |
| ☞3a | Carrier - Front | 2 | 659387-13 | |
| ☞3b | Carrier - Rear | 1 | 659334-1 | |
| 4 | Insulated tappet | 1 | 659332-5 | |
| 5a | Disc - front brake | 2 | 658470-39 | |
| 5b | Disc - rear brake | 1 | 657303-126 | |
| 6a | Wear indicator with cable - front (axle set) | 1 | 658470-50 | |
| 6b | Wear indicator with cable - rear (axle set) | 1 | 658517-31 | |
| 7a | Pad holder kit - front (axle set) | 1 | 658470-51 | |
| 7b | Pad holder kit - rear (axle set) | 1 | 657303-133 | |
| ☞8a | Guide pins and seals kit - front | 1 | 657303-128 | |
| ☞8b | Guide pins and seals kit - rear | 1 | 658517-29 | |
| 9 | Cap | 1 | 657303-131 | |
| 10 | Cap kit | 1 | 657303-137 | |
| 11 | Rubber bush kit | 1 | 657303-138 | |
| | Grease - coloured | 1 | 657303-139 | |
| | Grease - white | 1 | 657303-140 | |
| | Link harness - pad wear sensor | 2 | 431818 | |

| | | |
|--|---|---|
|  <p>1</p> |  <p>2</p> |  <p>3</p> |
|  <p>4</p> |  <p>5</p> |  <p>6</p> |
|  <p>7</p> |  <p>8</p> | |
|  <p>9</p> |  <p>10</p> |  <p>11</p> |
| <p>12</p> | <p>13</p> | <p>14</p> |

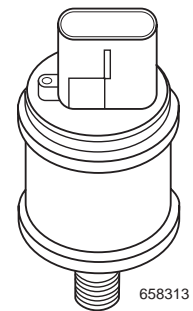
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|--|--|---------|------------|---------------|
| NOTE : This design of caliper has a separate shear off adaptor recognisable by a conical rubber cap over the wear adjuster. | | | | |
| <i>For caliper units See page 3.2.11</i> | | | | |
| Used on & after Chassis No's 1756, 1761 to 1763 & 1766 to 2806 inc 2822 & 2823 | | | | |
| | Front caliper RH | 1 | 660196-1 | SB7909 |
| | Front caliper LH | 1 | 660196-2 | SB7919 |
| Used on & after Chassis No's 1532 to 1536, 1672,1673,1697 to 2728 | | | | |
| ☞ | Rear caliper RH | 1 | 660426-24 | SB7201 |
| ☞ | Rear caliper LH | 1 | 660426-25 | SB7211 |
| 1 | Brake pads kit (axle set) | 1 | 658470-41 | |
| 2 | Brake pad & wear sensor kit (axle set) | 1 | 659956 | |
| 3a | Front Carrier | 2 | 659387-13 | |
| 3b | Rear Carrier | 2 | 659334-1 | |
| 4 | Insulated Tappet kit | 1 | 659332-5 | |
| 5a | Disc - front brake | 2 | 658470-39 | |
| 5b | Disc - rear brake | 2 | 657303-126 | |
| ☞ 6 | Wear indicator kit - with cable | 2 | 659334-8 | |
| ☞ 7 | Wear indicator kit - no cable | 2 | 659334-7 | |
| 8 | Guide pins and seals kit: | 2 | 659334-2 | |
| 9 | Pad holder kit (axle set) | 2 | 658470-51 | |
| 10 | Shear adaptor / cap kit | 1 | 659334-6 | |
| 11 | Cap kit | 1 | 659334-9 | |
| | Grease - coloured | 1 | 657303-139 | |
| | Grease - white | 1 | 657303-140 | |
| | Rear link harness - pad wear sensor | 2 | 431818 | |

| | | |
|--|---|---|
|  <p>1</p> |  <p>2</p> |  <p>3</p> |
|  <p>4</p> |  <p>5</p> |  <p>6</p> |
|  <p>7</p> |  <p>8</p> | |
|  <p>9</p> |  <p>10</p> |  <p>11</p> |
| | | |

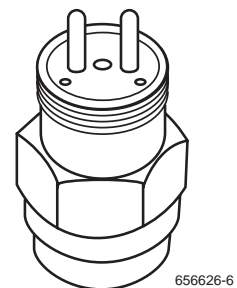
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---|--|---------|------------|-------------------------|
| NOTE : This design of caliper has a separate shear off adaptor recognisable by a conical rubber cap over the wear adjuster and internally, has isolated tappets. | | | | |
| <i>For caliper units See page 3.2.11</i> | | | | |
| Used on & after Chassis No's 2807 except 822 & 823 | | | | |
| | Front caliper - RH | 1 | 660196-1 | SB7962/ SB7434RC |
| | Front caliper - LH | 1 | 660196-2 | SB7972/ SB7424RC |
| Used on & after Chassis No 2729 | | | | |
| ☞ | Rear caliper - RH | 1 | 660426-24 | SB7963/ SB7434RC |
| ☞ | Rear caliper - LH | 1 | 660426-25 | SB7973/ SB7466RC |
| 1 | Brake pads kit (axle set) | 1 | 658470-41 | |
| 2 | Brake pad & wear sensor kit (axle set) | 1 | 659956 | |
| 3a | Front Carrier | 2 | 659387-13 | |
| ☞ 3b | Rear Carrier | 2 | 659334-13 | |
| 4 | Insulated Tappet kit | 1 | 659332-5 | |
| 5a | Disc - front brake | 2 | 658470-39 | |
| 5b | Disc - rear brake | 2 | 657303-126 | |
| ☞ 6 | Wear indicator kit - with cable | 2 | 659334-8 | |
| ☞ 7 | Wear indicator kit - no cable | 2 | 659334-7 | |
| 8 | Guide pins and seals kit: | 2 | 659334-2 | |
| 9 | Pad holder kit (axle set) | 2 | 659334-4 | |
| 10 | Shear adaptor / cap kit | 1 | 659921-28 | |
| 11 | Cap kit | 1 | 659921-29 | |
| | Grease - coloured | 1 | 657303-139 | |
| | Grease - white | 1 | 657303-140 | |



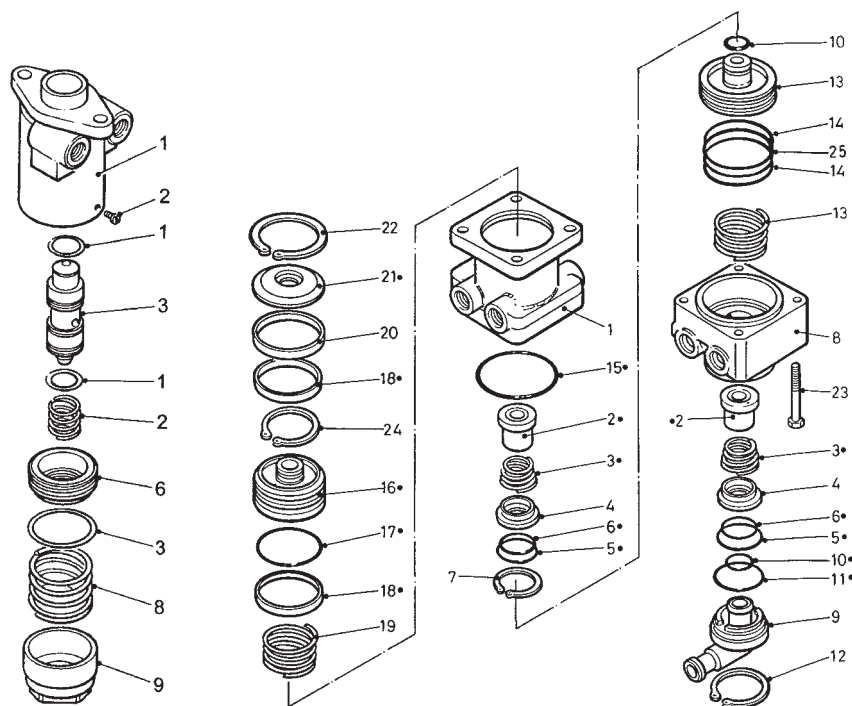
Footbrake Valve



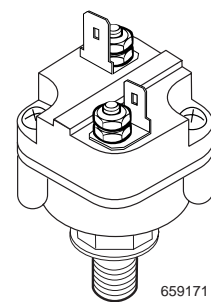
658313 Pressure Switch



656626-6 EK Switch



Retarder Valve Repair Kit



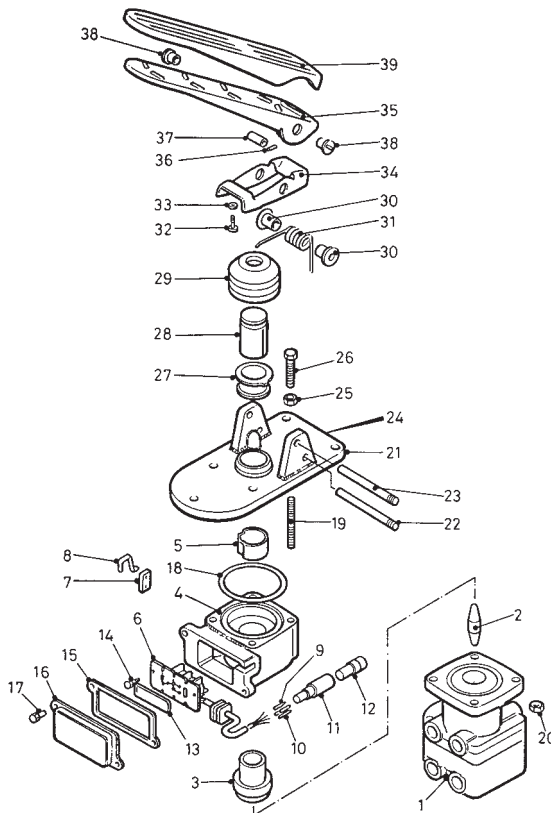
659171 Stop Light Switch

PARTS MANUAL FOOTBRAKE VALVE ASSEMBLY - ZF

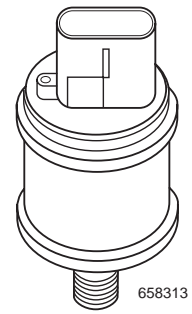
AMENDED:020502

UNIT NO:657186

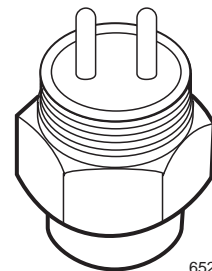
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|----------|---------|
| | Used on and up to Chassis No: 2113, 2118 to 2129 2131, 2132 2142 to 2144, 2196 - 2198 | | | |
| | Footbrake valve | 1 | 657186 | |
| 1 | Valve basic (see list below) | 1 | 657186-2 | |
| 17-28 | Mounting plate and treadle assembly | 1 | 657186-1 | |
| | Silencer | 1 | 656302 | |
| 29 | Pedal rubber | 1 | 652967-3 | |
| | Service repair kit - Valve - comprising items marked * | 1 | 657186-4 | |
| 1 | Housing | 1 | | |
| 2 | * Valve | 2 | | |
| 3 | * Spring | 2 | | |
| 4 | Seating ring | 2 | | |
| 5 | * 'O' ring | 2 | | |
| 6 | * 'O' ring | 2 | | |
| 7 | Retaining ring - 38 x 1.5 | 1 | | |
| 8 | Lower housing | 1 | | |
| 9 | Exhaust | 1 | | |
| 10 | * 'O' ring | 2 | | |
| 11 | * 'O' ring | 2 | | |
| 12 | Retaining ring - 47 x 1.5 | 1 | | |
| 13 | Piston | 1 | | |
| 14 | * 'O' ring | 2 | | |
| 15 | * 'O' ring | 1 | | |
| 16 | Internal seal - piston assembly | 1 | | |
| 17 | * 'O' ring | 1 | | |
| 18 | * Guide ring | 2 | | |
| 19 | Seating ring | 1 | | |
| 20 | Seating ring | 1 | | |
| 21 | * Gaiter | 1 | | |
| 22 | Retaining ring - 60 x 2 | 1 | | |
| 23 | Screw | 4 | | |
| 24 | Retaining ring | 1 | | |
| 25 | Ring | 1 | | |
| | Retarder valve | 1 | 657186-3 | |
| 1-3 | Retarder valve kit | 1 | 657186-5 | |



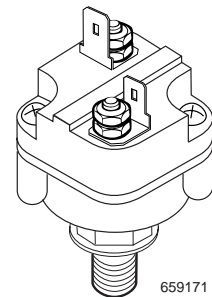
Footbrake Valve



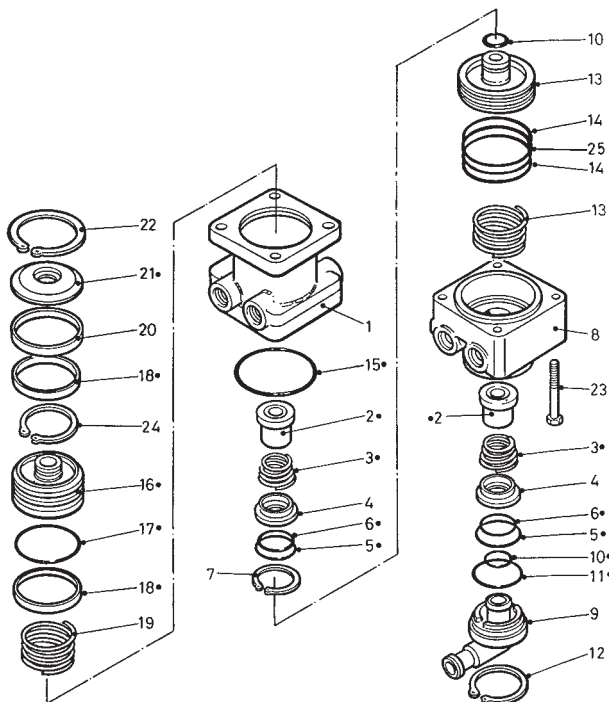
658313 Pressure Switch



652061-1 GearGuard Switch

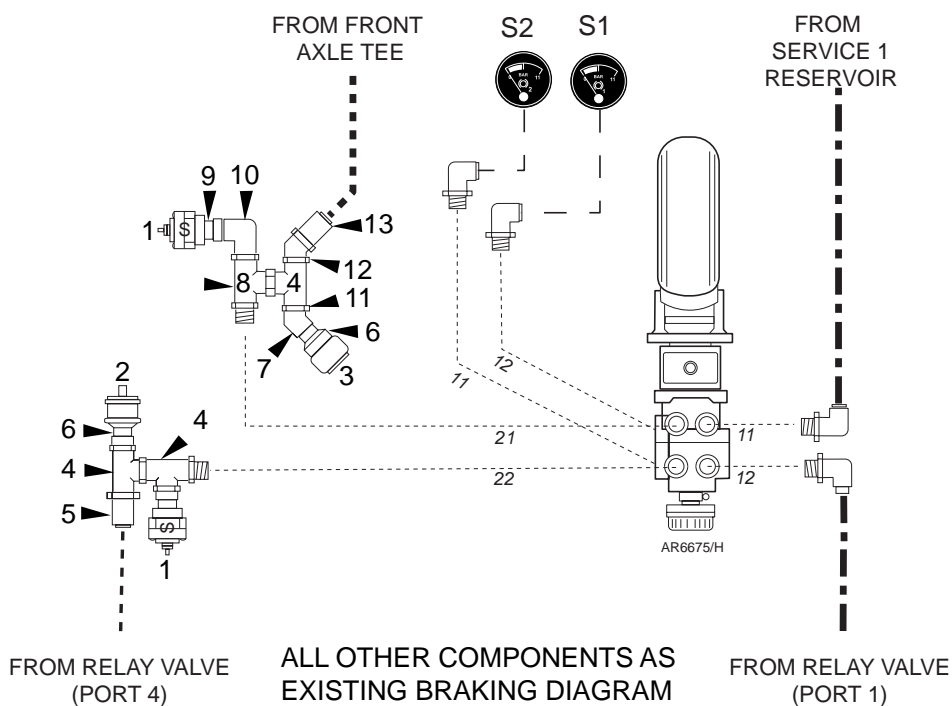
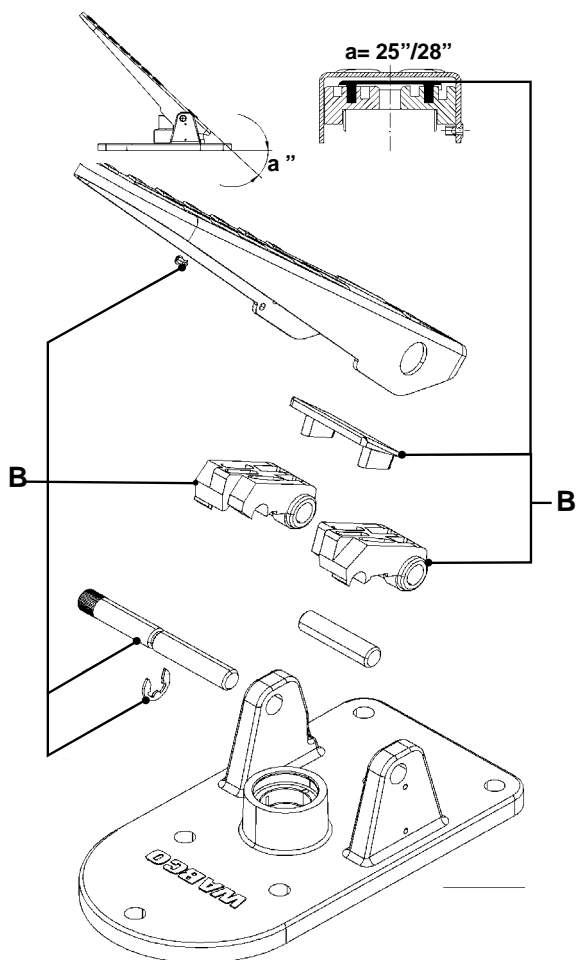


659171 Stop Light Switch

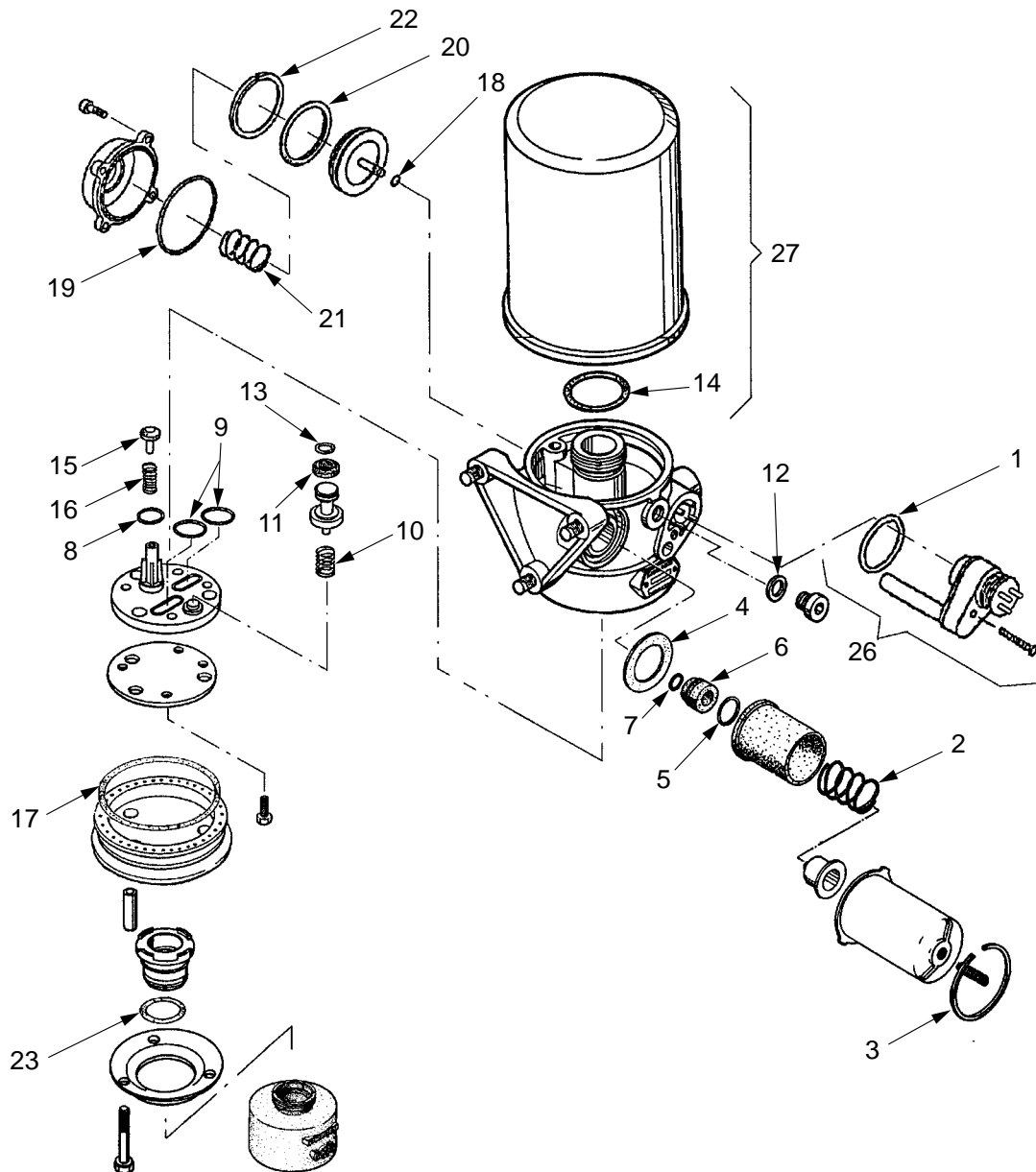


Service Repair Kit Basic Valve

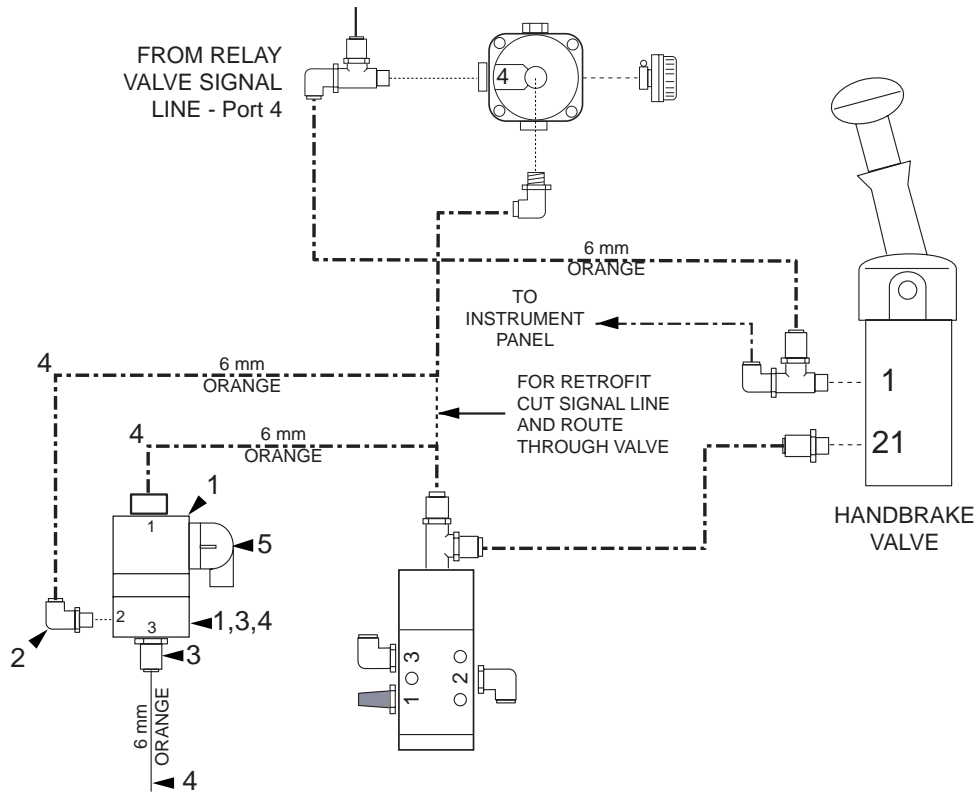
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|----------|---------|
| | Used on and up to Chassis No: 2113, 2118 to 2129 2131, 2132 2142 to 2144, 2196 - 2198 | | | |
| | Footbrake valve | 1 | 657185 | |
| 1 | Valve basic (see list below) | 1 | 657186-2 | |
| 6-11 | Microswitch assembly | 1 | 657185-2 | |
| 21-38 | Mounting plate and treadle assembly | 1 | 657186-1 | |
| | Silencer | 1 | 656302 | |
| 39 | Pedal rubber | 1 | 652967-3 | |
| | Service repair kit - Valve - comprising items marked * | kit | 657186-4 | |
| 1 | Housing | 1 | | |
| 2 | * Valve | 2 | | |
| 3 | Spring | 2 | | |
| 4 | Seating ring | 2 | | |
| 5 | * 'O' ring | 2 | | |
| 6 | * 'O' ring | 2 | | |
| 7 | Retaining ring - 38 x 1.5 | 1 | | |
| 8 | Lower housing | 1 | | |
| 9 | Exhaust | 1 | | |
| 10 | * 'O' ring | 2 | | |
| 11 | * 'O' ring | 2 | | |
| 12 | Retaining ring - 47 x 1.5 | 1 | | |
| 13 | Piston | 1 | | |
| 14 | * 'O' ring | 2 | | |
| 15 | * 'O' ring | 1 | | |
| 16 | Internal seal - piston assembly | 1 | | |
| 17 | * 'O' ring | 1 | | |
| 18 | * Guide ring | 2 | | |
| 19 | Seating ring | 1 | | |
| 20 | Seating ring | 1 | | |
| 21 | Gaiter | 1 | | |
| 22 | Retaining ring - 60 x 2 | 1 | | |
| 23 | Screw | 4 | | |
| 24 | Retaining ring | 1 | | |
| 25 | Ring | 1 | | |



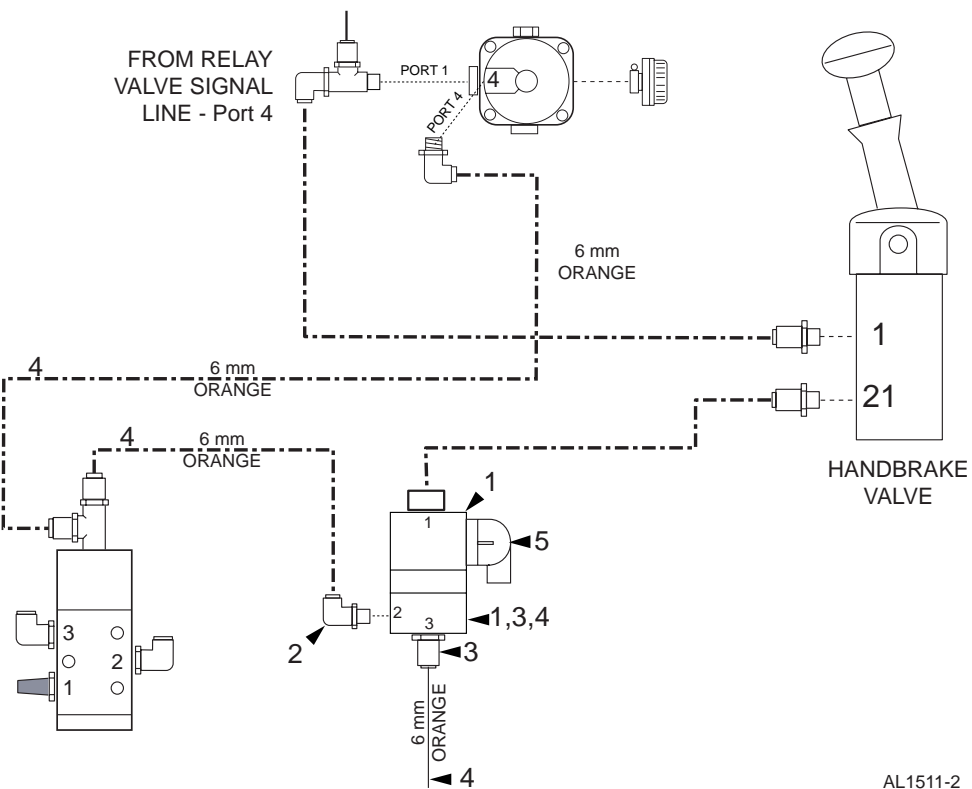
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|---------------|---------|
| | Used on and after Chassis No :2114 to 2117, 2130 2133 to 2141, 2145 onwards | | | |
| | Footbrake pedal (See braking system) | 1 | 659776 | |
| | Footbrake mounting | 1 | 434270 | |
| | Screw | 4 | MCS 1306 20PB | |
| | Basic valve | 1 | 657186-2 | |
| | Basic valve kit (up to week 20/01) | 1 | 651847-17 | |
| | Basic valve kit (from week 21/01) | 1 | 651847-25 | |
| ☞ B | Treadle repair kit | 1 | 659776-2 | |
| | NOTE : if replacing an existing pedal with 659776 you will need kit AL1529-1to modify the harness to suit the potentiometer plug. | | | |
| 1 | Stop switch | 2 | 659171 | |
| 2 | Pressure switch - Voith - "Bus stop" | 1 | 658313 | |
| 3 | Pressure switch - ZF - "Bus stop" EK | 1 | 656626-6 | |
| 4 | Tee | 1 | 654924 | |
| 5 | Connector | 1 | 654921-9 | |
| 6 | Reducer | 1 | 657950-2 | |
| 7 | Elbow - 45 | 1 | 658017 | |
| 8 | Tee | 1 | 654923-1 | |
| 9 | Reducer | 1 | 657950-1 | |
| 10 | Elbow | 1 | 657240 | |
| 11 | Adaptor | 1 | 654938 | |
| 12 | Adaptor - rework | 1 | 418461 | |
| 13 | Connector | 1 | 654921-4 | |
| | ALL OTHER COMPONENTS AS EXISTING BRAKING DIAGRAM | | | |



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|----------|---------|
| | Air dryer unit - complete | 1 | 657516 | |
| | Nut | 3 | MCN 512P | |
| | Repair kit - comprising items 1 - 25 | 1 | 657516-1 | |
| | Heater plug - comprising item 26 | 1 | 658208-2 | |
| | Filter cartridge - comprising item 27 | 1 | 658208-3 | |
| | Silencer assembly | 1 | 658644 | |

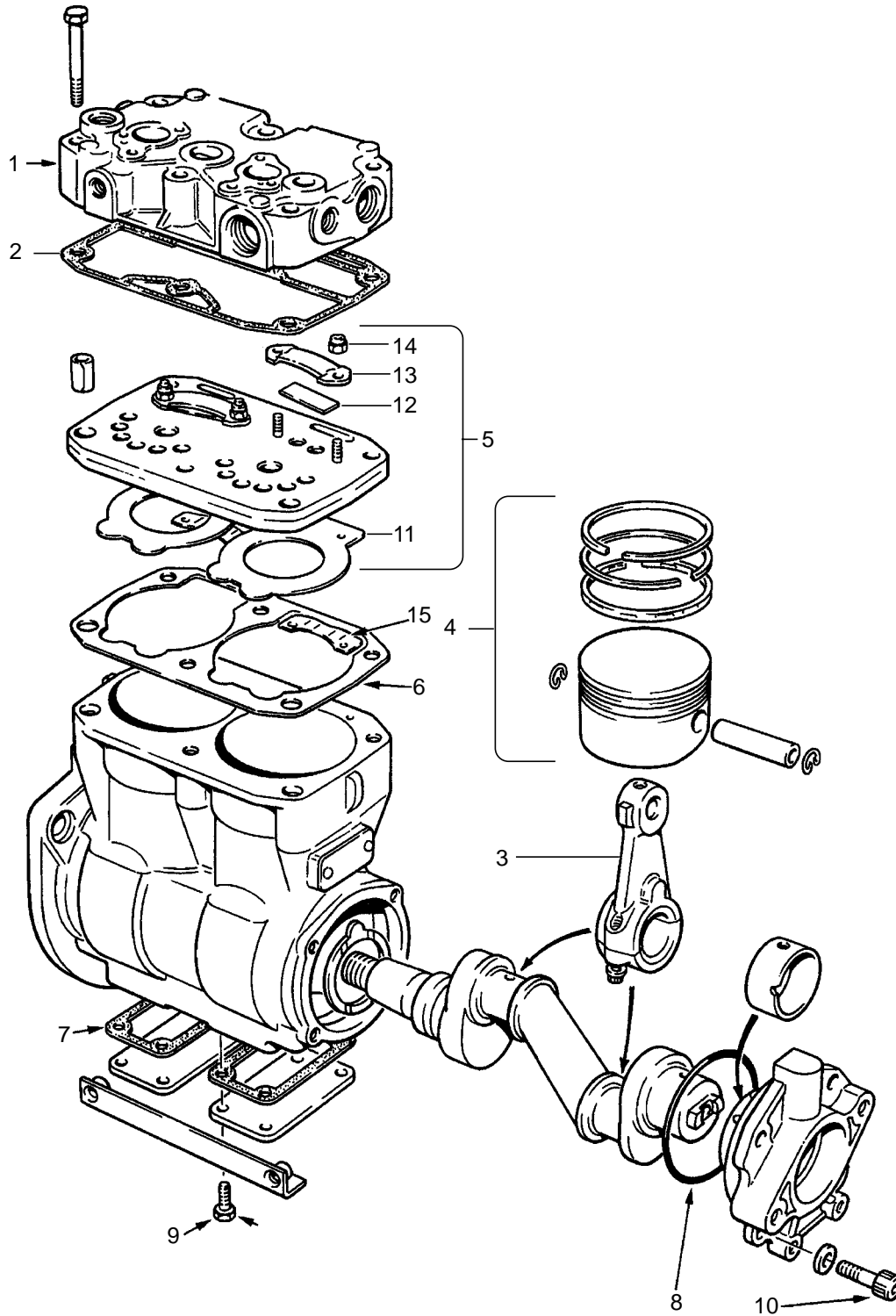


AL1511-1



AL1511-2

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|-----------------------|---------|-------------|---------|
| 1 | Solenoid valve | 1 | 655776 | |
| | Nut | 1 | 654339 | |
| | Olive | 1 | 654340 | |
| | Support | 1 | 655832-2 | |
| | Bolt | 2 | MCB 108 5SP | |
| | Nut | 2 | MCN 708P | |
| 2 | Elbow | 1 | 654919-5 | |
| 3 | Connector | 1 | 654921-8 | |
| 4 | Pipe-Nylon-orange-6mm | 0.1m | 654748 | |
| 5 | Connector "Kostal" | 1 | 652285 | |

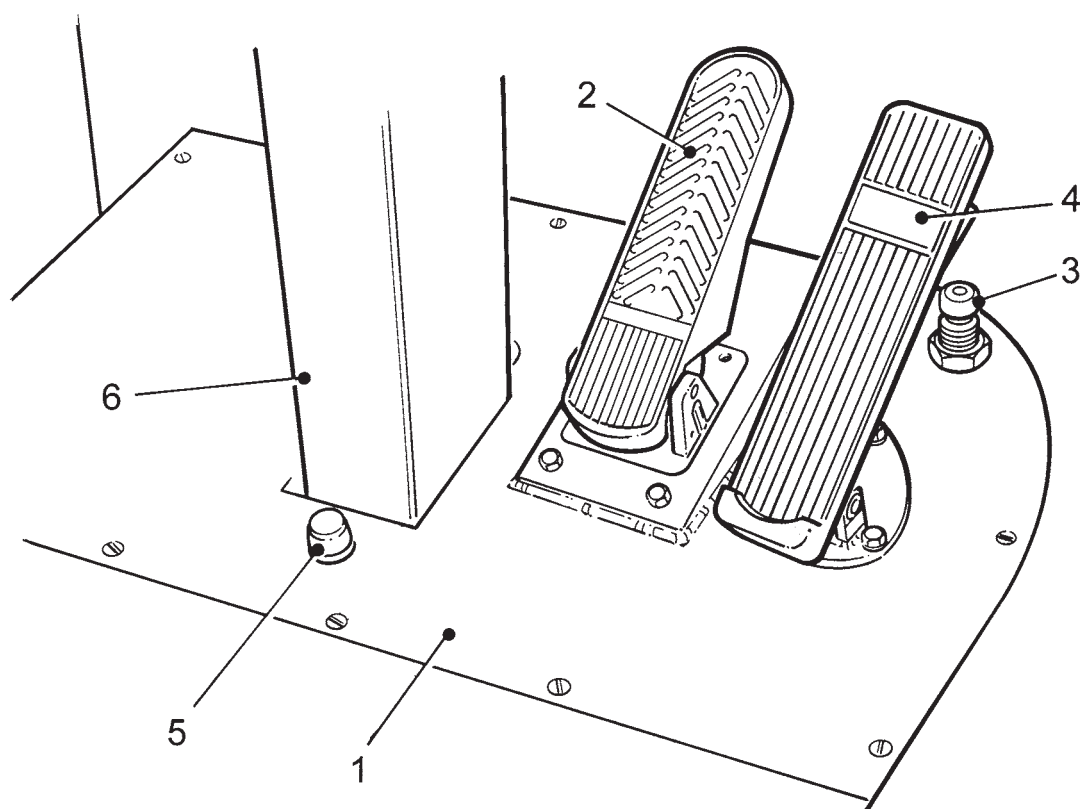


| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|----------|---------|
| ☞ | TWIN CYLINDER COMPRESSOR | 1 | 658878-1 | |
| | Seal and gasket kit - Items 2,6,7,8,9,10 | 1 | 657463-1 | |
| | Reed valve kit - Items 11,12,13,14,15 | 1 | 657463-2 | |
| | Cylinder head kit - Items 1,2 | 1 | 657463-3 | |
| 1 | Cylinder head | 1 | - | |
| 2 | Gasket - cylinder head to valve | 1 | - | |
| 3 | Con rod assembly | 2 | 657463-4 | |
| 4 | Standard piston assembly | 2 | 657463-5 | |
| 5 | Valve plate assembly | 1 | 657463-6 | |
| 6 | Gasket - valve plate to crankcase | 1 | | |
| 7 | Sump gasket | 2 | | |
| 8 | End cover 'O' ring | 1 | | |
| 9 | Screw - sump | 8 | | 7Nm |
| 10 | Screw - end cover | 4 | | 20Nm |
| 11 | Inlet reed | 2 | | |
| 12 | Delivery reed | 2 | | |
| 13 | Delivery bridge | 2 | | |
| 14 | Delivery bridge nut | 4 | | 7Nm |
| 15 | Wave spring | 2 | | |

DENNIS

SECTION 4.1

Cab FloorPage 4.1.3



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|-------------|--|---------|---------------|-----------|
| | Used on and up to Chassis No: 2113, 2118 to 2129 2131, 2132 2142 to 2144, 2196 - 2198 | | | |
| 1a | Floor plate assembly - front foot button | 1 | 427524 | C1510B |
| 1b | Floor plate assembly - side foot button | 1 | 431944 | C1510G |
| | Screw | 12 | MCS 1306 20PB | |
| 2a | Footbrake pedal - Voith (See braking system) | 1 | 657185 | |
| 3a | Switch - kickdown - Voith | 1 | 657042-2 | |
| 2b | Footbrake pedal - ZF (See braking system) | 1 | 657186 | |
| 3b | Switch - kickdown - ZF | 1 | 655492 | |
| | Plinth - footbrake pedal - 20 degrees | 1 | 421934 | |
| | Setscrew | 3 | MCS 108 30P | |
| | Nut | 3 | MCN 508P | |
| | Washer | 3 | WMA 8SP | |
| 4 | Throttle pedal (See Engine Controls) | 1 | - | EC1511A&B |
| 5 | Foot button valve | 1 | 657404 | |
| 6 | Steering column adjustable (See Steering section) | 1 | 658092 | |
| | Used on and after Chassis No : 2114 to 2117, 2130 2133 to 2141, 2145 onwards | | | |
| 1c | Floor plate assembly - side foot button - wabco pedal | 1 | 434231 | C1510H |
| | Screw | 11 | MCS 1306 20PB | |
| | Footbrake mounting | 1 | 434270 | |
| | Screw | 4 | MCS 1306 20PB | |
| 2c | Footbrake pedal (See braking system) | 1 | 659776 | |
| | Plinth - footbrake pedal - 20 degrees | 1 | 421934 | |
| | Plinth - footbrake pedal - 25 degrees | 1 | 437471 | MYU03 |
| | Setscrew | 4 | MCS 108 30P | |
| | Nut | 4 | MCN 508P | |
| | Washer | 4 | WMA 8SP | |
| | NOTE : if replacing an existing pedal with 659776 you will need kit AL1529-1to modify the harness | | | |
| NOTE | MYU03 | | | |

DENNIS

SECTION 5.1

Used on and up to Chassis No:1834, 1836 - 1876, 1882 - 1888, 1894 - 1895

Cooling systemPage 5.1.2 - 5

Used on and after Chassis No:1835, 1877 - 1181, 1889 - 1893, 1896 - 2543 except 2400

Cooling systemPage 5.1.6 - 9

Radiator assemblyPage 5.1.10 - 11

Radiator seal kitPage 5.1.11

Used on and after Chassis No 2544 onwards including 2400

Cooling systemPage 5.1.12 - 15

Radiator assemblyPage 5.1.16 - 17

Intercooler and pipework assemblyPage 5.1.18 - 19

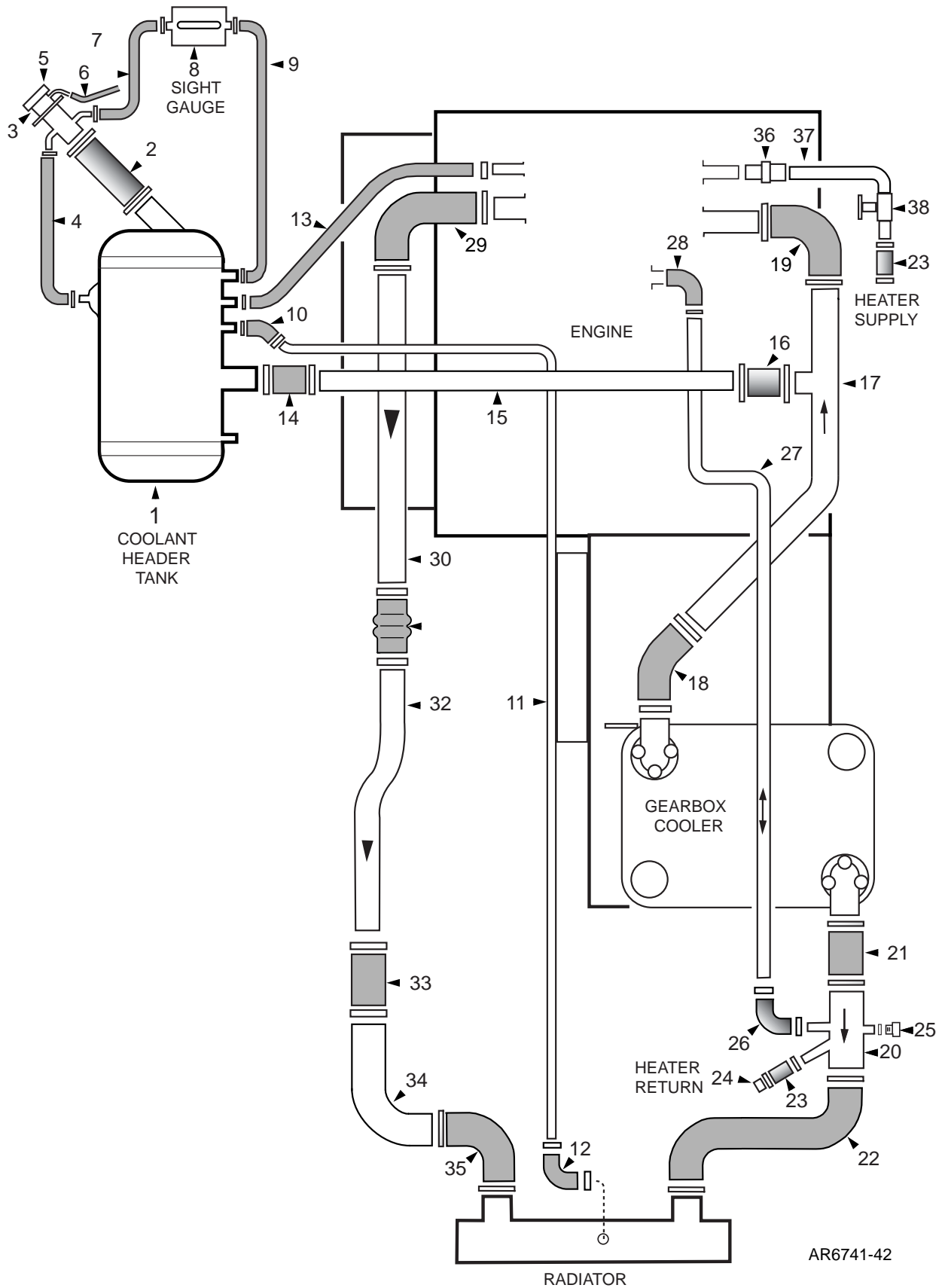
☞ Header tankPage 5.1.20 - 21

Heating pipes AL1522-13,-14,-18,-19Page 5.1.22 - 23

Heating pipes OL1526-1Page 5.1.24 - 25

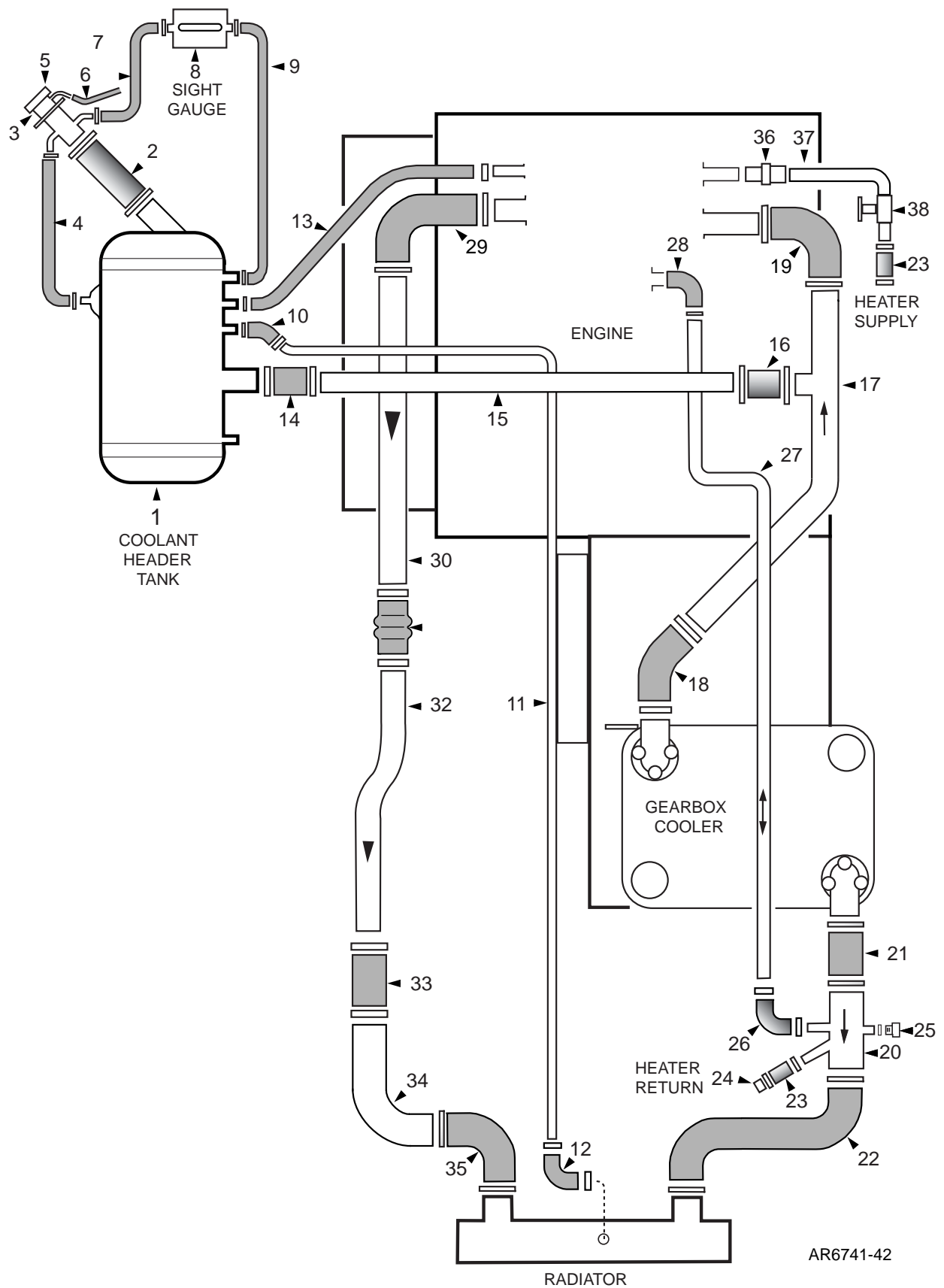
Heating pipes AL1521-6 & AL1521-7Page 5.1.26 - 27

NOTE : Later vehicles are fitted with “Blue Stripe” hoses as opposed to the earlier blue silicon hoses. The “Blue Stripe” hose numbers may be found in brackets in the remarks column.



AR6741-42

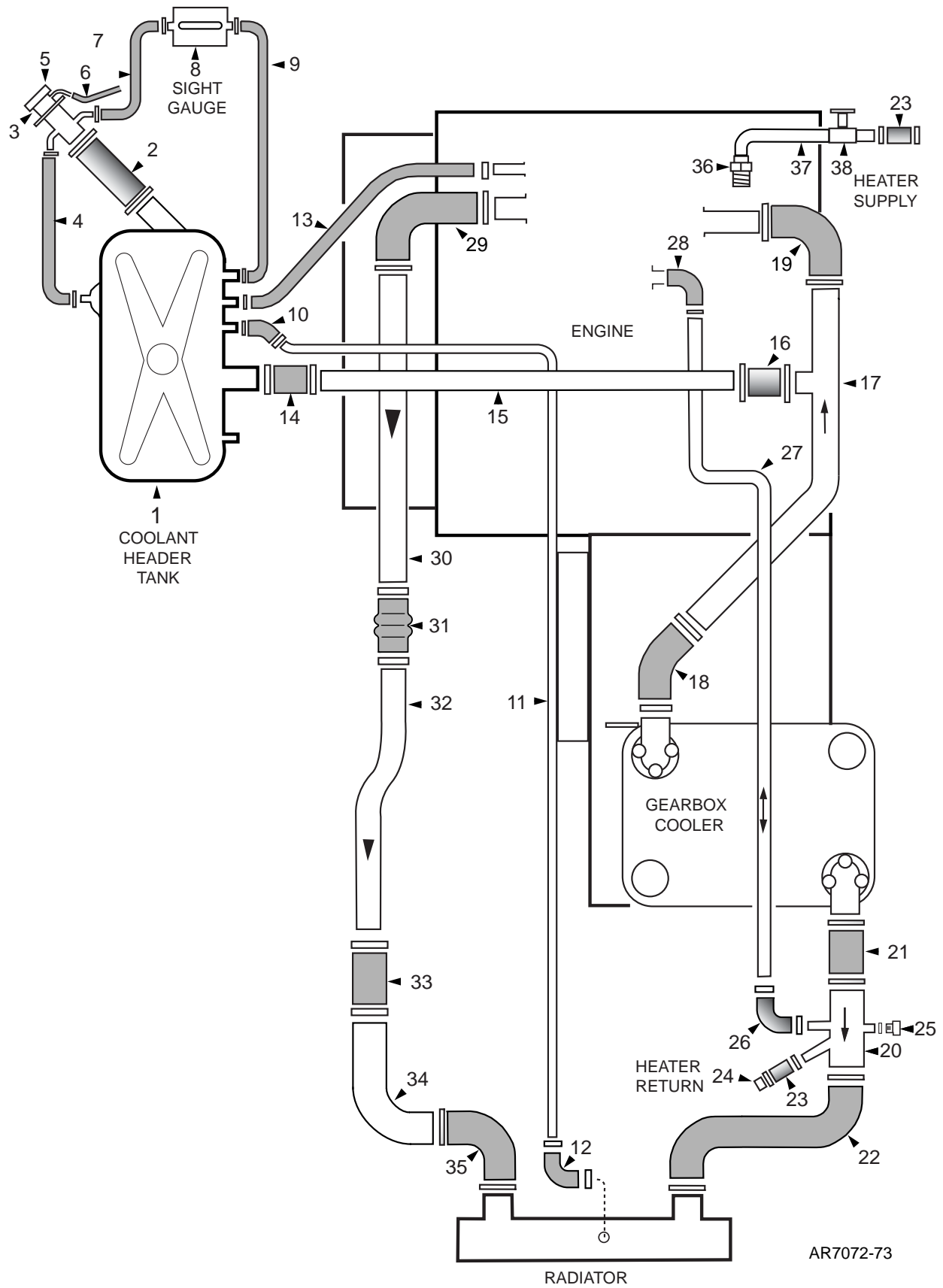
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|--------------|-----------------|
| | Used on & after Chassis No: 1834, 1836 - 1876, 1882 - 1888, 1894 - 1895 | | | |
| 1 | Header tank assembly - sight glass | 1 | 425241 | |
| | Probe - coolant level | 1 | 652489 | |
| | Grommet - coolant probe | 1 | 652490 | |
| | Clamp header tank | 2 | 426013 | SL1109 |
| | Nut - self locking | 1 | MCN 708P | |
| | Bolt | 2 | MCB 108 225P | |
| | Washer- plain | 2 | WMA 8SP | |
| | Washer- spring | 2 | WMC 8SP | |
| | Nut-full | 2 | MCN 108P | |
| | Rubber strip | .3M | 656768 | |
| 2a | Hose - tank fill - ALX400 only | 1 | 437722 | AL1538-1 |
| 2b | Hose - tank fill - President only | 1 | 437800 | AL1538-2 |
| 2c | Hose - tank fill - other | 1 | 252245-6 | AL1538-3 |
| | Clip | 2 | 656818-10 | |
| 3 | Filler neck | 1 | 424295 | |
| 4 | Hose - breather - tank to neck | 1 | 423098-340 | |
| | Clip - filler neck | 1 | 656818-3 | |
| | Clip - tank | 1 | 656818-1 | |
| 5a | Pressure cap | 1 | 654109 | |
| | Clip-tank | 1 | 656818-2 | |
| 5b | Pressure cap - pressure release lever | 1 | 659659 | OL1520-1 |
| 6 | Hose - drain | 1 | 654242 | |
| 7 | Hose - upper - sight gauge | 1 | 424329 | (434238-1) |
| | Clip-filler neck | 1 | 656818-2 | |
| | Clip - sight gauge | 1 | 656818-2 | |
| 8 | Sight gauge assembly | 1 | 425557 | |
| | Front plate - sight glass | 1 | 430896 | |
| | Screw | 4 | MCS 1903 16P | |
| | Glass tube | 1 | 424128 | |
| | Grommet | 2 | 657359 | |
| | Bracket - sight glass | 1 | 425025 | |
| | Nut | 2 | MCN 103P | |
| 9 | Hose - lower - sight gauge | 1 | 424330 | |
| | Clip tank | 1 | 656818-2 | |
| | Clip - sight gauge | 1 | 656818-2 | |
| 10 | Hose elbow - tank to bleed pipe | 1 | 425444 | (435198) |
| | Clip | 2 | 656818-2 | |
| 11 | Bleed pipe | 1 | 425496 | |
| 12 | Hose - radiator to bleed pipe | 1 | 425444 | (435198) |
| | Clip - pipe | 1 | 656818-1 | |
| | Clip - radiator | 1 | 656818-2 | |
| 13 | Hose | 1 | 242895-12 | (434248-12) |
| | Clip | 2 | 656818-2 | |
| 14 | Hose elbow - tank outlet | 1 | 425317 | (434260) |
| | Clip-tank | 1 | 656818-10 | |
| | Clip - pipe | 1 | 656818-9 | |
| 15 | Pipe-fill | 1 | 424174 | |
| 16 | Hose - fill pipe | 1 | 400424 | (434244) |
| | Clip | 2 | 656818-9 | |



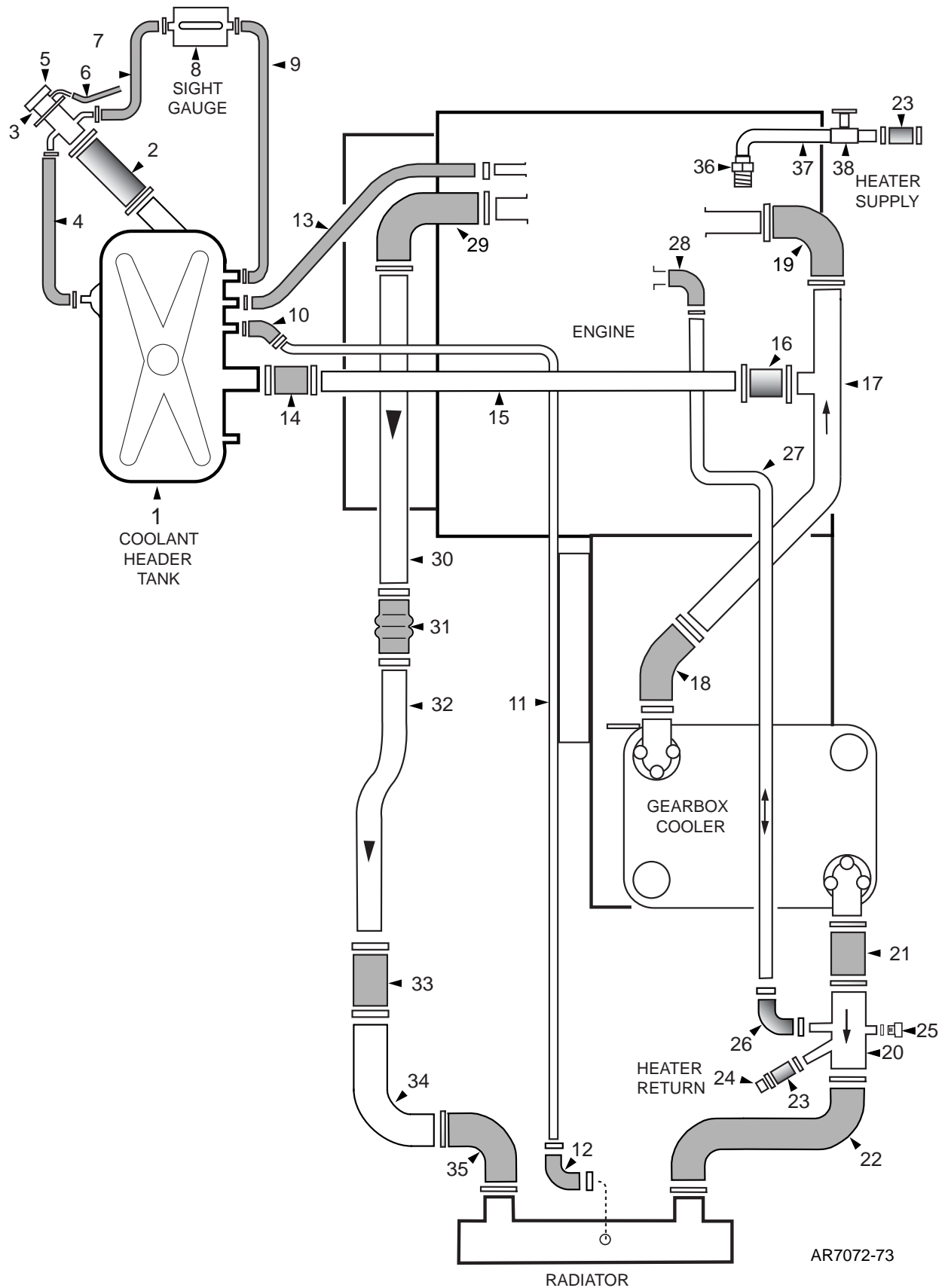
AR6741-42

AMENDED:021105

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|------------|-----------------|
| 17a | Pipe assembly - gearbox cooler to engine - Voith | 1 | 429654 | R1511A |
| 17b | Pipe assembly - gearbox cooler to engine - ZF | 1 | 429694 | R1511B |
| | Bracket - pipe support | 1 | 426390 | |
| | Bracket - Harness support | 1 | 424388 | |
| | Pipe clip | 1 | 419491 | |
| 18 | Hose elbow - gearbox cooler | 1 | 424684 | (434378) |
| | Clip-pipe | 2 | 656818-10 | |
| 19 | Hose elbow - engine | 1 | 656538 | (435200) |
| | Clip - pipe | 1 | 656818-10 | |
| | Clip - engine | 1 | 656818-11 | |
| 20a | Pipe - gearbox / radiator / bypass - Voith | 1 | 430658 | |
| 20b | Pipe - gearbox / radiator / bypass - ZF | 1 | 430657 | R1511A |
| 21 | Hose - gearbox cooler to pipe | 1 | 400293 | (434246-1) |
| | Clip - pipe | 1 | 656818-10 | |
| | Clip - gearbox | 1 | 656818-10 | |
| 22 | Hose "S" - radiator | 1 | 425438 | (435199) |
| | Clip | 2 | 656818-101 | |
| 23 | Hose - heater return | 1 | 650514-2 | (434250-2) |
| 24 | Plug | 1 | 420746 | |
| | Clip - heater return | 2 | 656818-5 | |
| 25 | Plug | 1 | 5349-2 | |
| | Bonded seal | 1 | 603677 | |
| 26 | Hose elbow - bypass pipe | 1 | 431827 | (435196) |
| | Clip | 1 | 656818-4 | |
| 27a | Pipe - bypass - Voith | 1 | 431671 | R1511A |
| 27b | Pipe - bypass - ZF | 1 | 431851 | R1511B |
| | Hose clip | 3 | 610029-4 | |
| 28 | Hose elbow - reducing - engine | 1 | 431827 | (435196) |
| | Clip - pipe | 1 | 656818-4 | |
| | Clip - engine | 1 | 656818-4 | |
| 29 | Hose elbow - engine to pipe | 1 | 429091 | (435197) |
| | Clip - engine | 1 | 656818-11 | |
| 30 | Pipe | 1 | 424169 | |
| | Bracket - "L" - pipe support | 1 | 401825 | |
| 31 | Hose convolute - pipe to pipe | 1 | 400317 | (434263) |
| | Bracket - "vee" - pipe support | 1 | 424113 | |
| | Bracket strip - P clip | 1 | 426665 | |
| 33 | Hose - pipe to pipe | 1 | 424684 | (434378) |
| 32 | Pipe | 1 | 425497 | |
| 33 | Hose - pipe to pipe | 1 | 424684 | (434378) |
| 34 | Pipe - hose to elbow | 1 | 425498 | |
| 35 | Hose elbow - radiator inlet | 1 | 654308 | (434375-1) |
| | Clip | 7 | 656818-10 | |
| 36 | Connector | 1 | 659310 | |
| 37 | Pipe - heater feed | 1 | 432253 | |
| 38 | Valve - heater supply | 1 | 658650 | |
| | HEATER PIPES | | | OL1525-1 |
| | Pipe - top - rear | 1 | 433890 | |
| | Pipe - top - front | 1 | 433891 | |
| | Pipe - top - rear | 1 | 426695 | |
| | Pipe - bottom - front | 1 | 426697 | |
| | Clip | 16 | 610029-8 | |

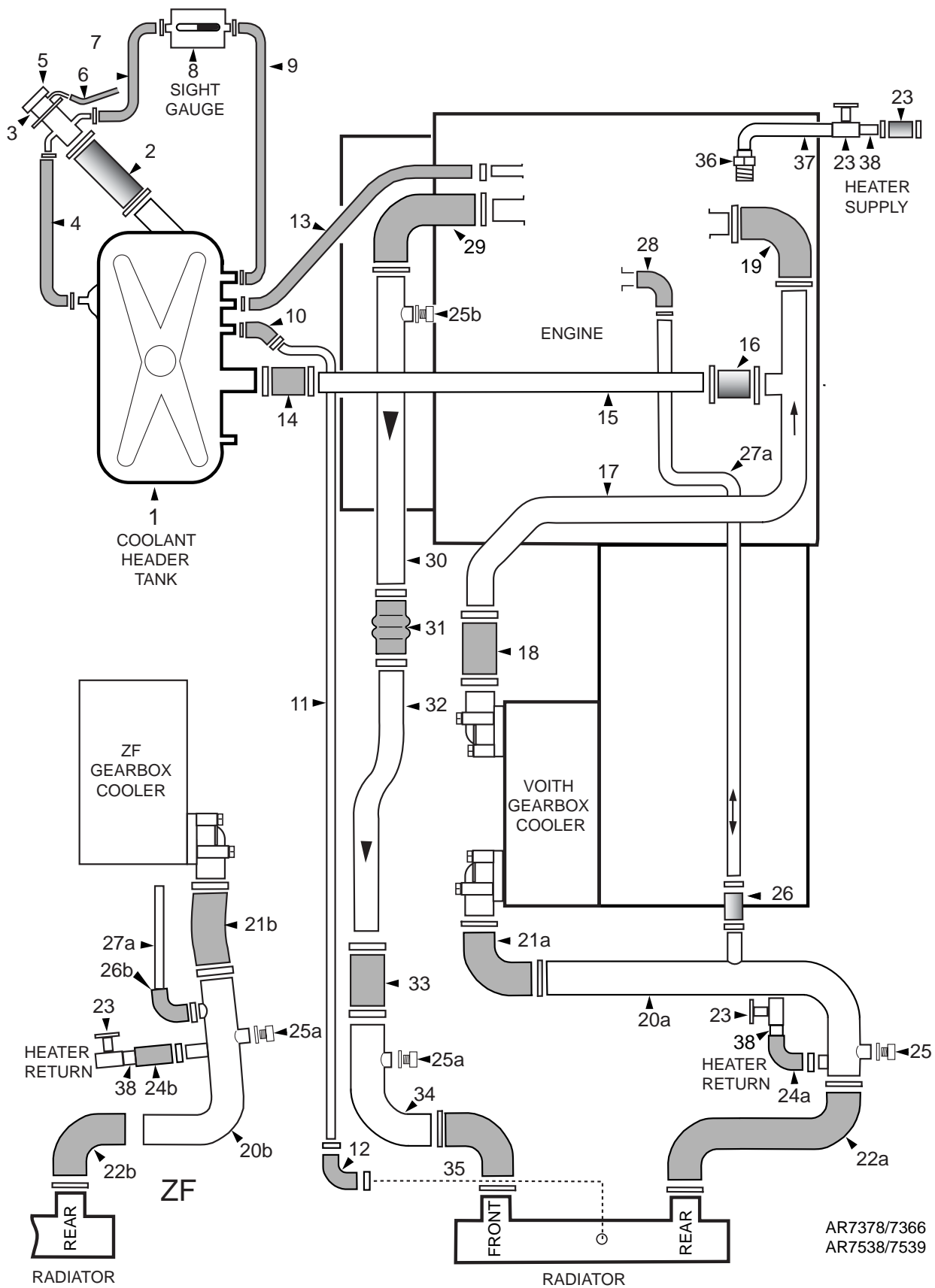


| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|--------------|-----------------|
| | Used on & up to Chassis No:1835, 1877 - 1181, 1889 - 1893, 1896 - 2543 except 2400 | | | |
| 1 | Header tank assembly (See separate list) | 1 | 429792 | |
| ☞2a | Hose - tank fill - ALX400 only | 1 | 437722 | AL1538-1 |
| ☞2b | Hose - tank fill - President only | 1 | 437800 | AL1538-2 |
| ☞2c | Hose - tank fill - other | 1 | 252245-6 | AL1538-3 |
| | Clip | 2 | 656818-10- | |
| 3 | Filler neck | 1 | 435201-6 | |
| | Clip - filler neck | 1 | 656818-1- | |
| | Clip - tank | 1 | 656818-3 | |
| ☞4 | Hose - breather - tank to neck | 1 | 242895-20 | (434248-20) |
| 5a | Pressure cap | 1 | 654109 | |
| ☞5b | Pressure cap - pressure release lever | 1 | 659659 | OL1520-1 |
| 6 | Hose - drain | 1 | 654242 | |
| ☞7 | Hose - upper - sight gauge | 1 | 424329 | (434238-1) |
| | Clip-filler neck | 1 | 656818-1 | |
| | Clip - sight gauge | 1 | 656818-3 | |
| 8 | Sight gauge assembly | 1 | 425557 | |
| | Front plate - sight glass | 1 | 430896 | |
| | Screw | 4 | MCS 1903 16P | |
| | Glass tube | 1 | 424128 | |
| | Grommet | 2 | 657359 | |
| | Bracket - sight glass | 1 | 425025 | |
| | Nut | 2 | MCN 103P | |
| ☞9 | Hose - lower - sight gauge | 1 | 433334 | (434238-1) |
| | Clip tank | 1 | 656818-2 | |
| | Clip - sight gauge | 1 | 656818-3 | |
| ☞10 | Hose elbow - tank to bleed pipe | 1 | 425444 | (435198) |
| | Clip - tank | 1 | 656818-2 | |
| | Clip - pipe | 1 | 656818-1 | |
| 11 | Bleed pipe | 1 | 425496 | |
| ☞12 | Hose - radiator to bleed pipe | 1 | 425444 | (435198) |
| | Clip - pipe | 1 | 656818-1 | |
| | Clip - radiator | 1 | 656818-2 | |
| ☞13 | Hose | 1 | 242895-12 | (434248-12) |
| | Clip | 2 | 656818-2 | |
| ☞14 | Hose elbow - tank outlet | 1 | 425317 | (434260) |
| | Clip-tank | 1 | 656818-10 | |
| | Clip - pipe | 1 | 656818-9 | |
| 15 | Pipe-fill | 1 | 424174 | |
| 16 | Hose - fill pipe | 1 | 400424 | (434244) |
| | Clip | 2 | 656818-9 | |
| 17a | Pipe assembly - gearbox cooler to engine - Voith | 1 | 429654 | R1513A |
| 17b | Pipe assembly - gearbox cooler to engine - ZF | 1 | 429694 | R1513B/R1514B |
| | Bracket - pipe support | 1 | 426390 | |
| | Bracket - Harness support | 1 | 424388 | |
| | Pipe clip | 1 | 419491 | |



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|-----------|------------|
| ☞ 18 | Hose elbow - gearbox cooler | 1 | 424684 | (434378) |
| | Clip-pipe | 2 | 656818-10 | |
| ☞ 19 | Hose elbow - engine | 1 | 656538 | (435200) |
| | Clip - pipe | 1 | 656818-10 | |
| | Clip - engine | 1 | 656818-11 | |
| 20a | Pipe - gearbox / radiator / bypass - Voith | 1 | 430658 | R1513A |
| | Bracket - pipe support | 1 | 435181 | |
| ☞ 21 | Hose - gearbox cooler to pipe | 1 | 400293 | (434246-1) |
| | Clip - pipe | 1 | 656818-10 | |
| | Clip - gearbox | 1 | 656818-10 | |
| ☞ 22 | Hose "S" - radiator - Voith | 1 | 425438 | (435199) |
| | Clip | 2 | 656818-10 | |
| ☞ 23 | Valve - heater supply | 1 | 658650 | |
| 24 | Valve - heater return | 1 | 658650 | |
| 25 | Plug | 1 | 5349-2 | |
| | Bonded seal | 1 | 603677 | |
| ☞ 26 | Hose elbow - bypass pipe | 1 | 431827 | (435196) |
| | Clip | 1 | 656818-4 | |
| 27a | Pipe - bypass - Voith | 1 | 431851 | R1511A |
| 27b | Pipe - bypass - ZF | 1 | 431671 | R1511B |
| | Hose clip | 3 | 610029-4 | |
| ☞ 28 | Hose elbow - reducing - engine | 1 | 431827 | (435196) |
| | Clip - pipe | 1 | 656818-4 | |
| | Clip - engine | 1 | 656818-4 | |
| ☞ 29 | Hose elbow - engine to pipe | 1 | 429091 | (435197) |
| | Clip - engine | 1 | 656818-11 | |
| 30a | Pipe | 1 | 424169 | |
| 30b | Pipe | 1 | 434248-1 | R1511B |
| | Bracket - "L" - pipe support | 1 | 401825 | |
| ☞ 31 | Hose convolute - pipe to pipe | 1 | 400317 | (434263) |
| | Bracket - "vee" - pipe support | 1 | 424113 | |
| | Bracket strip - P clip | 1 | 426665 | |
| ☞ 33 | Hose - pipe to pipe | 1 | 424684 | (434378) |
| 32 | Pipe | 1 | 425497 | |
| ☞ 33 | Hose - pipe to pipe | 1 | 424684 | (434378) |
| 34 | Pipe - hose to elbow | 1 | 425498 | |
| ☞ 35 | Hose elbow - radiator inlet | 1 | 654308 | (434375-1) |
| | Clip | 7 | 656818-10 | |
| 36 | Connector | 1 | 659310 | |
| ☞ 37 | Pipe - heater feed | 1 | 433979 | |
| ☞ 38 | Valve - heater supply | 1 | 658650 | |
| | HEATER PIPES | | | |
| | Pipe - top - rear | 1 | 430997 | |
| | Pipe - top - front | 1 | 430998 | |
| | Pipe - top - rear | 1 | 426696 | |
| | Pipe - bottom - front | 1 | 426697 | |
| | Clip | 16 | 610029-8 | |

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|--------------|----------|
| | Radiator cooling pack comprising: | 1 | 428035 | |
| 1 | Radiator insert - peg type | 1 | 427381 | |
| ☞ | Grommet - radiator frame | 2 | 428035-7 | |
| 2 | Radiator cowl | 2 | 425472-3 | |
| | Setscrew | 10 | MCS 108 20P | |
| | Washer - spring | 10 | MCN 508P | |
| | Washer-plain | 10 | 652361 | |
| 3 | Fan blade | 1 | 656756 | |
| | Fan hub | 1 | 406935 | |
| 4 | Fan carrier - "Top hat" | 1 | 425472-12 | |
| 5 | Fan carrier arm | 2 | 425472-4 | |
| 6 | Fan Motor | 1 | 658513 | |
| 7 | Metacone mount - radiator | 2 | 659137 | |
| | Setscrew | 4 | MCS 108 20P | |
| | Nut | 4 | 4 | MCN 508P |
| 8 | Clamp - washer | 4 | 409042 | |
| 9 | Washer | 2 | 190036 | |
| 10 | Bolt | 2 | UFB 107 26SP | |
| 11 | Nut | 2 | UFN 507 AP | |
| 12 | Stay - radiator | 1 | 419390 | |
| 13 | Nut - self locking | 2 | MCN 510P | |
| 14 | Backing washer | 8 | 211401 | |
| 15 | Mounting rubber | 4 | 211402 | |
| 16 | Nut-half | 2 | MCN 210P | |
| 17 | Nut-plain | 2 | MCN 110P | |
| ☞18a | Oil cooler - cast header tank | 1 | 428035-1 | SEE NOTE |
| ☞18b | Oil cooler with recirculation panel kit | 1 | 660827 | SEE NOTE |
| ☞18c | Recirculation panel | 1 | 428035-4 | SEE NOTE |
| 19 | Fly screen | 1 | 426716 | |
| | Seal rubber - radiator - bottom edge - flyscreen | 0.76m | 660157-4 | SL1795 |
| 20 | Charge air cooler assembly (see separate list) | 1 | 430554 | |
| 21 | Radiator frame - peg type | 1 | 428035-3 | |
| 22 | Hose adaptor - top tank | 1 | 659650 | |
| 23 | Recirculating shield - RH | 1 | 428035-4 | |
| | Seal rubber - radiator - btm return intake panel | 1 | 660156 | SL1795 |
| 24 | Recirculating shield - LH | 1 | 428035-5 | |
| 25 | Recirculating shield - top | 1 | 428035-6 | |
| 26 | Frame - bottom rail | 1 | 425472-10 | |
| | Seal rubber - radiator - frame bottom rail | 0.12m | 660157-1 | SL1795 |
| | Seal rubber - radiator - frame bottom rail | 0.21m | 660157-2 | SL1795 |
| | Seal rubber - radiator - frame bottom rail | 0.13m | 660157-3 | SL1795 |
| | Bracket - pipe support - fan cowl | 1 | 401825 | |
| | Radiator seal kit | 1 | SL1795 | |
| | NOTE: The oil cooler supplied as a spare now has cast header tanks. If replacing an earlier fabricated header type cooler with the latest cast type a kit will be required that includes a recirculation panel. | | | |



AR7378/7366
AR7538/7539

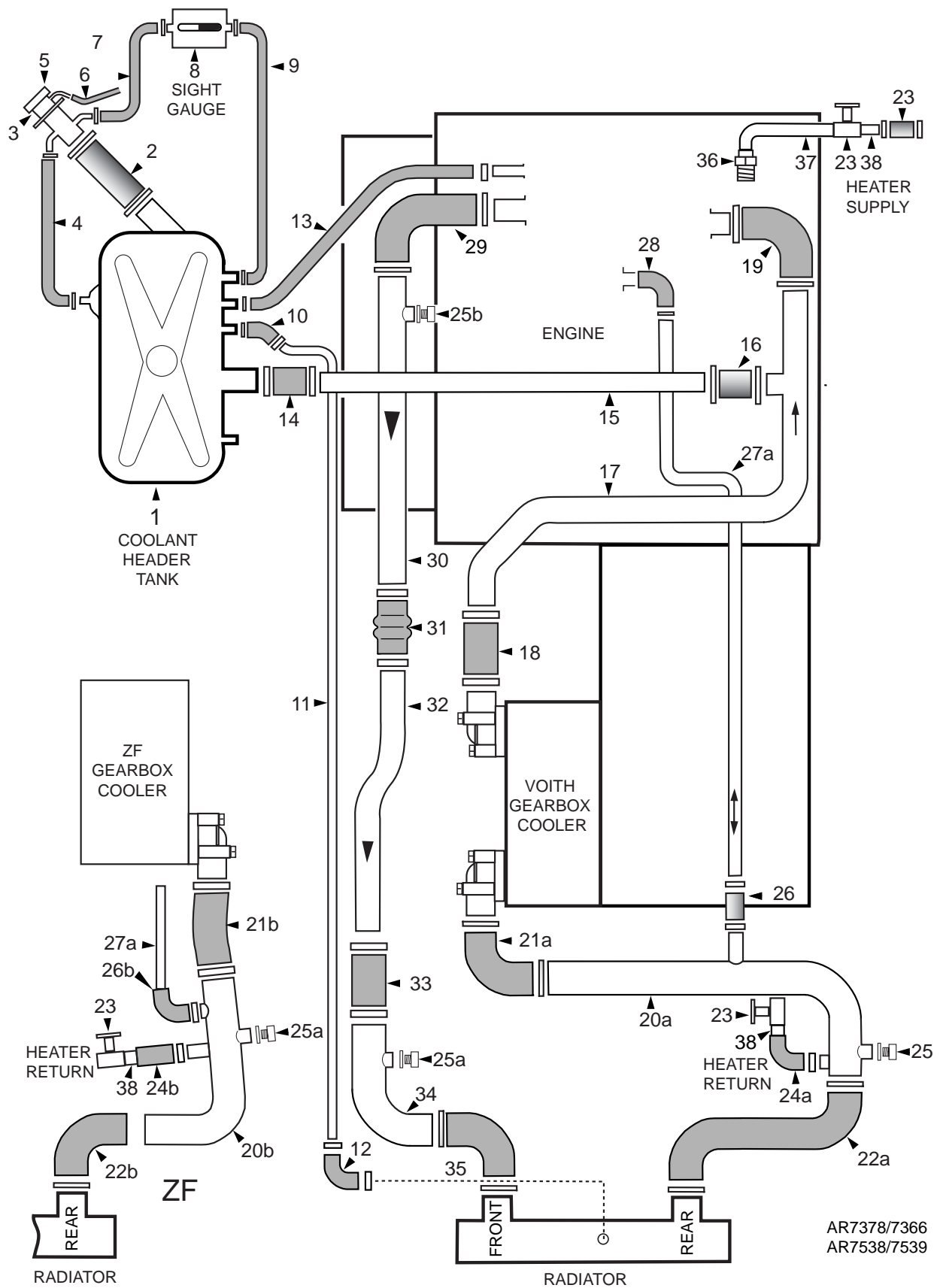
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|--------------|-----------------|
| | Used on & up to No 2400 & 2544-3157not inc 3065 | | | |
| 1 | Header tank assembly (see separate list) | 1 | 429792 | |
| ☞2a | Hose - tank fill - ALX400 only | 1 | 437722 | AL1538-1 |
| ☞2b | Hose - tank fill - President only | 1 | 437800 | AL1538-2 |
| ☞2c | Hose - tank fill - other | 1 | 252245-6 | AL1538-3 |
| | Clip | 2 | 656818-10 | |
| 3 | Filler neck | 1 | 424295 | |
| | Clip - filler neck & tank | 2 | 656818-1 | |
| 4 | Hose - breather - tank to neck | 1 | 242895-20 | (434248-20) |
| 5a | Pressure cap | 1 | 654109 | |
| 5b | Pressure cap - pressure release lever | 1 | 659659 | OL1520-1 |
| 6 | Hose - drain | 1 | 654242 | |
| ☞7 | Hose - upper - sight gauge | 1 | 424329 | (434238-1) |
| | Clip -filler neck & sight gauge | 1 | 656818-4 | |
| 8 | Sight gauge assembly | 1 | 425557 | |
| | Front plate - sight glass | 1 | 430896 | |
| | Screw | 4 | MCS 1903 16P | |
| | Glass tube | 1 | 424128 | |
| | Grommet | 2 | 657359 | |
| | Bracket - sight glass | 1 | 425025 | |
| | Nut | 2 | MCN 103P | |
| 9 | Hose - lower - sight gauge | 1 | 433334 | (434238-1) |
| | Clip tank | 1 | 656818-2 | |
| | Clip - sight gauge | 1 | 656818-3 | |
| 10 | Hose elbow - tank to bleed pipe | 1 | 242895-10 | |
| | Clip - tank | 1 | 656818-2 | |
| | Clip - pipe | 1 | 656818-1 | |
| 11 | Bleed pipe | 1 | 425496 | |
| 12 | Hose - radiator to bleed pipe | 1 | 425444 | (435198) |
| | Clip - pipe | 1 | 656818-1 | |
| | Clip - radiator | 1 | 656818-2 | |
| 13 | Hose | 1 | 242895-12 | (434248-12) |
| | Clip | 2 | 656818-2 | |
| 14 | Hose elbow - tank outlet | 1 | 425317 | (434260) |
| | Clip-tank & pipe | 1 | 656818-9 | |
| 15 | Pipe-fill | 1 | 424174 | |
| 16 | Hose - fill pipe | 1 | 400424 | (434244) |
| | Clip | 2 | 656818-5 | |
| 17a | Pipe assembly - gearbox cooler to engine - Voith 4 Spd | 1 | 435180 | R1513C/R1514A |
| | Bracket - pipe support | 1 | 426390 | R1514B |
| | Pipe clip | 1 | 419491 | |
| 17b | Pipe assembly - gearbox cooler to engine - ZF | 1 | 429694 | |
| ☞17c | Pipe assembly - gearbox cooler to engine - Voith | 1 | 437872 | |
| 18a | Hose straight - gearbox cooler - Voith | 1 | 400293 | (434246-1) |
| 18b | Hose elbow - gearbox cooler - ZF | 1 | 434378 | |
| | Clip-pipe | 2 | 656818-9 | |

COOLING SYSTEM

PARTS MANUAL

AMENDED:251103

UNIT NO:R1513C.R1514A&B.R1515A&B



AR7378/7366
AR7538/7539

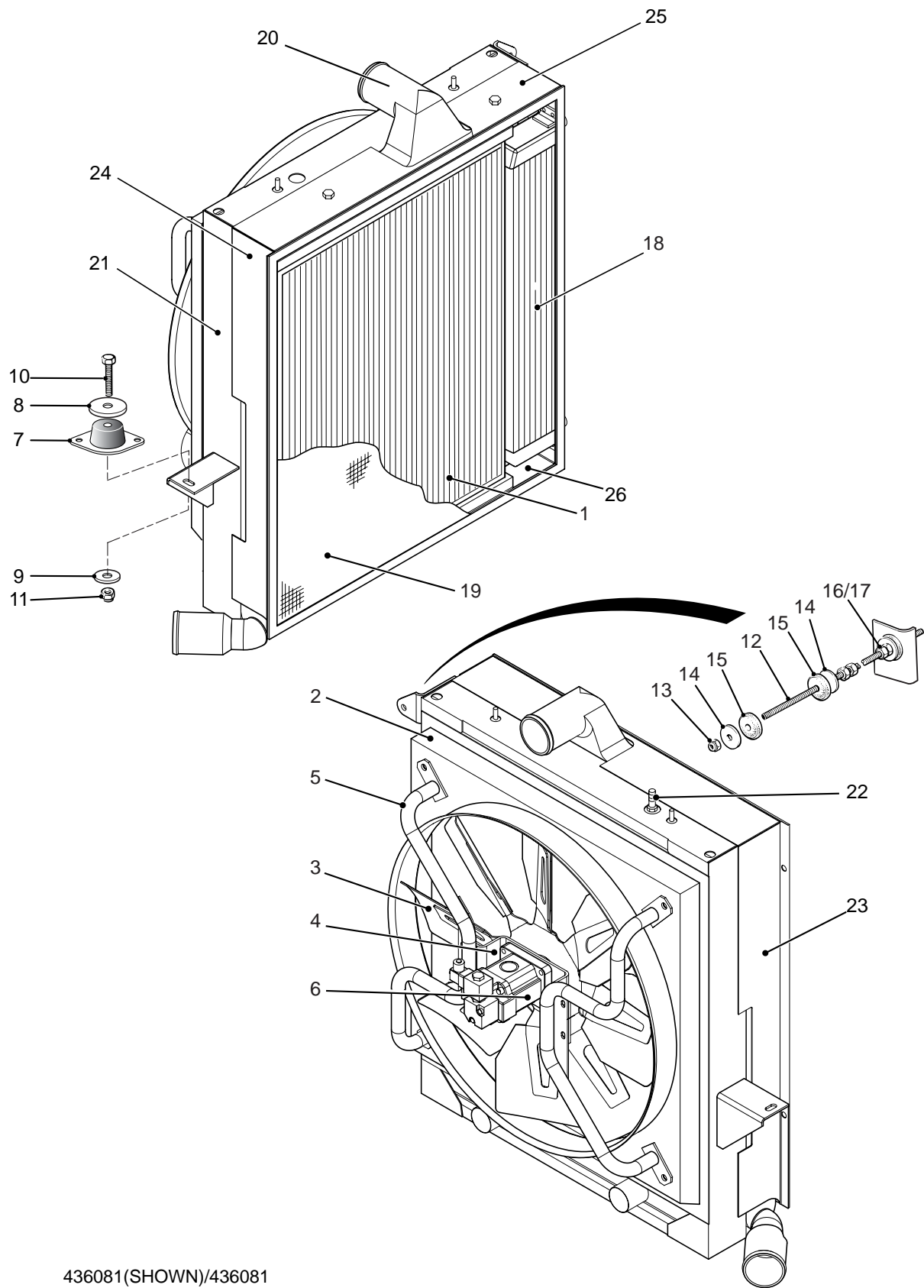
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|-----------|---------------|
| 19 | Hose elbow - engine | 1 | 656538 | (435200) |
| | Clip - pipe | 1 | 656818-10 | |
| | Clip - engine | 1 | 656818-11 | |
| 20a | Pipe - gearbox / radiator / bypass - Voith 4 speed | 1 | 435181 | R1513C/R1514A |
| 20b | Pipe - gearbox / radiator / bypass - ZF | 1 | 430657 | R1514B |
| | Bracket - pipe support | 1 | 435169 | |
| ☞ 21a | Hose elbow - gearbox cooler to pipe | 1 | 651007 | (434375-1) |
| ☞ 21b | Hose - gearbox cooler to pipe | 1 | 434378 | |
| | Clip - pipe & gearbox | 2 | 656818-10 | |
| ☞ 22a | Hose "S" - radiator - Voith 4 speed | 1 | 435199 | R1513C/R1514A |
| ☞ 22b | Hose elbow - radiator - ZF | 1 | 434375-2 | R1514B |
| | Clip | 2 | 656818-10 | |
| 23 | Valve - heater supply & return | 1 | 658650 | |
| ☞ 24a | Elbow - heater return - Voith | 1 | 434249-4 | |
| ☞ 24b | Hose - heater return - ZF | 1 | 434249-4 | |
| ☞ 25a | Plug | 1 | 5349-2 | |
| 25b | Plug - rapid bleed | 1 | 660466 | |
| | Bonded seal | 1 | 603677 | |
| 26a | Hose - bypass pipe - Voith | 1 | 423807-3 | (435205) |
| 26b | Hose elbow - bypass pipe - ZF | 1 | 435196 | |
| | Clip | 1 | 656818-4 | |
| 27a | Pipe - bypass - Voith 4 speed | 1 | 435182 | R1513C/R1514A |
| 27b | Pipe - bypass - ZF | 1 | 431851 | R1514B |
| | Hose clip | 3 | 656818-4 | |
| 28 | Hose elbow - reducing - engine | 1 | 431827 | (435196) |
| | Clip | 2 | 656818-4 | |
| 29 | Hose elbow - engine to pipe | 1 | 429091 | (435197) |
| | Clip - engine | 1 | 656818-11 | |
| | Clip - pipe | 1 | 656818-10 | |
| 30a | Pipe | 1 | 424169 | R1513C/R1514A |
| 30b | Pipe | 1 | 434248-1 | R1514B |
| | Bracket - "L" - pipe support | 1 | 401825 | |
| 31 | Hose convolute - pipe to pipe | 1 | 400317 | (434263) |
| | Bracket - "vee" - pipe support | 1 | 424113 | |
| | Bracket strip - P clip | 1 | 426665 | |
| 32 | Pipe - convolute to elbow | 1 | 425497 | |
| 33 | Hose - pipe to pipe | 1 | 424684 | (434378) |
| 34 | Pipe - hose to elbow | 1 | 425498 | |
| 35 | Hose elbow - radiator inlet | 1 | 654308 | (434375-1) |
| | Clip | 7 | 656818-10 | |
| 36 | Connector | 1 | 659310 | |
| 37 | Pipe - heater feed | 1 | 433979 | |
| ☞ 38 | Pipe - stub - heater | 1 | 429610 | |
| ☞ | Used on & after Chassis No 3158 including 3065 | | | |
| ☞ 30c | Pipe - Voith | 1 | 424169 | R1515A |
| ☞ 30d | Pipe - ZF | 1 | 436695 | R1515B |

RADIATOR ASSEMBLY

PARTS MANUAL

AMENDED:031105

UNIT NO:R1513C.R1514A&B.R1515A&B



436081(SHOWN)/436081

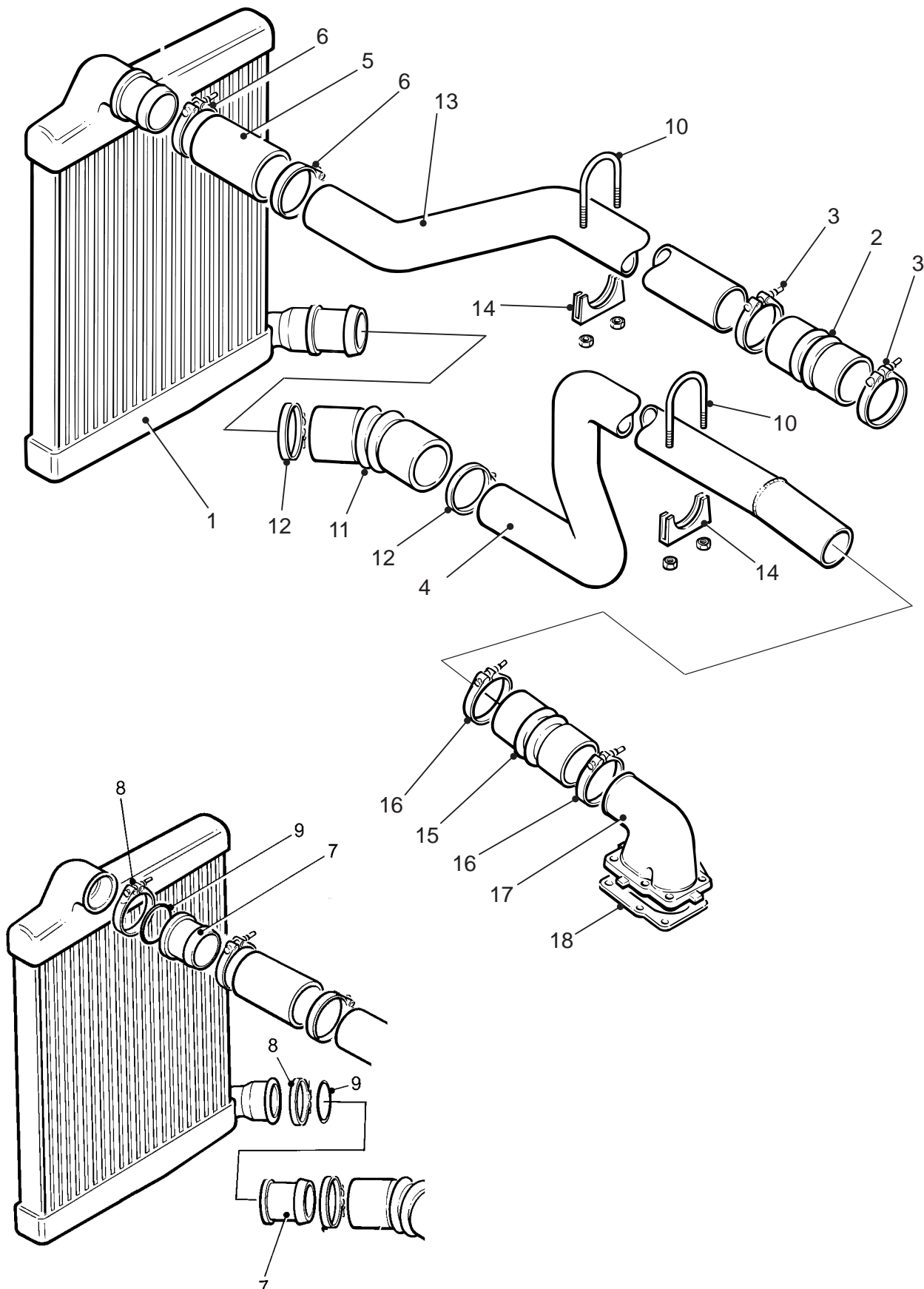
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|--------------|----------------------|
| | Used on and after Chassis No 2400 & 2544 onwards | | | |
| | Radiator cooling pack assembly: | 1 | 436080 | R1513C |
| 1 | Radiator insert | 1 | 427381 | |
| | Grommet - radiator frame | 2 | 428035-7 | |
| 2 | Fan cowl - 4speed Voith only | 1 | 435179-2 | |
| | Setscrew | 10 | MCS 108 20P | |
| | Washer - spring | 10 | MCN 508P | |
| | Washer-plain | 10 | 652361 | |
| 3a | Fan blade - plastic | 1 | 656756 | |
| | Fan Hub | 1 | 406935 | |
| 4 | Fan carrier - "Top hat" | 1 | 435179-4 | |
| 5 | Fan carrier arm | 2 | 435179-3 | |
| 6 | Fan Motor | 1 | 660051 | |
| 7 | Metacone mount - radiator | 2 | 659137 | |
| | Setscrew | 4 | MCS 108 20P | |
| | Nut | 4 | MCN 508P | |
| ☞ 8 | Washer | 2 | 190036 | 57o/d |
| ☞ 9 | Clamp - washer | 4 | 409042 | 30 o/d |
| 10 | Bolt | 2 | UFB 107 26SP | |
| 11 | Nut | 2 | UFN 507 AP | |
| 12 | Stay - radiator | 1 | 419390 | |
| 13 | Nut - self locking | 2 | MCN 510P | |
| 14 | Backing washer | 8 | 211401 | |
| 15 | Mounting rubber | 4 | 211402 | |
| 16 | Nut-half | 2 | MCN 210P | |
| 17 | Nut-plain | 2 | MCN 110P | |
| ☞ 18a | Oil cooler - cast headers | 1 | 428035-1 | SEE NOTE |
| ☞ 18b | Oil cooler with recirculation panel kit | 1 | 660827 | SEE NOTE |
| ☞ 18c | Recirculation panel | 1 | 428035-4 | SEE NOTE |
| 19a | Fly screen - woven wire mesh | 1 | 429035-3 | |
| 20 | Charge air cooler assembly (see separate list) | 1 | 43055 | |
| 21 | Radiator frame - peg type | 1 | 428035-3 | |
| 22 | Hose adaptor - top tank | 1 | 659650 | |
| 23 | Recirculating shield - RH | 1 | 428035-4 | |
| 24 | Recirculating shield - LH | 1 | 428035-5 | |
| 25 | Recirculating shield - top | 1 | 428035-6 | |
| 26 | Frame - bottom rail | 1 | 425472-10 | |
| | Radiator cooling pack assembly: | 1 | 436081 | R1514A&B. |
| 3b | Fan blade - metal - c/w hub | 1 | 659981 | |
| ☞ 19b | Fly screen - perforated | 1 | 435466 | |
| | All other components as above | | | |
| | Bracket - pipe support - fan cowl | 1 | 401825 | |
| | NOTE: The oil cooler supplied as a spare now has cast header tanks. If replacing an earlier fabricated header type cooler with the latest cast type a kit will be required that includes a recirculation panel. | | | |

INTERCOOLER ASSEMBLY

PARTS MANUAL

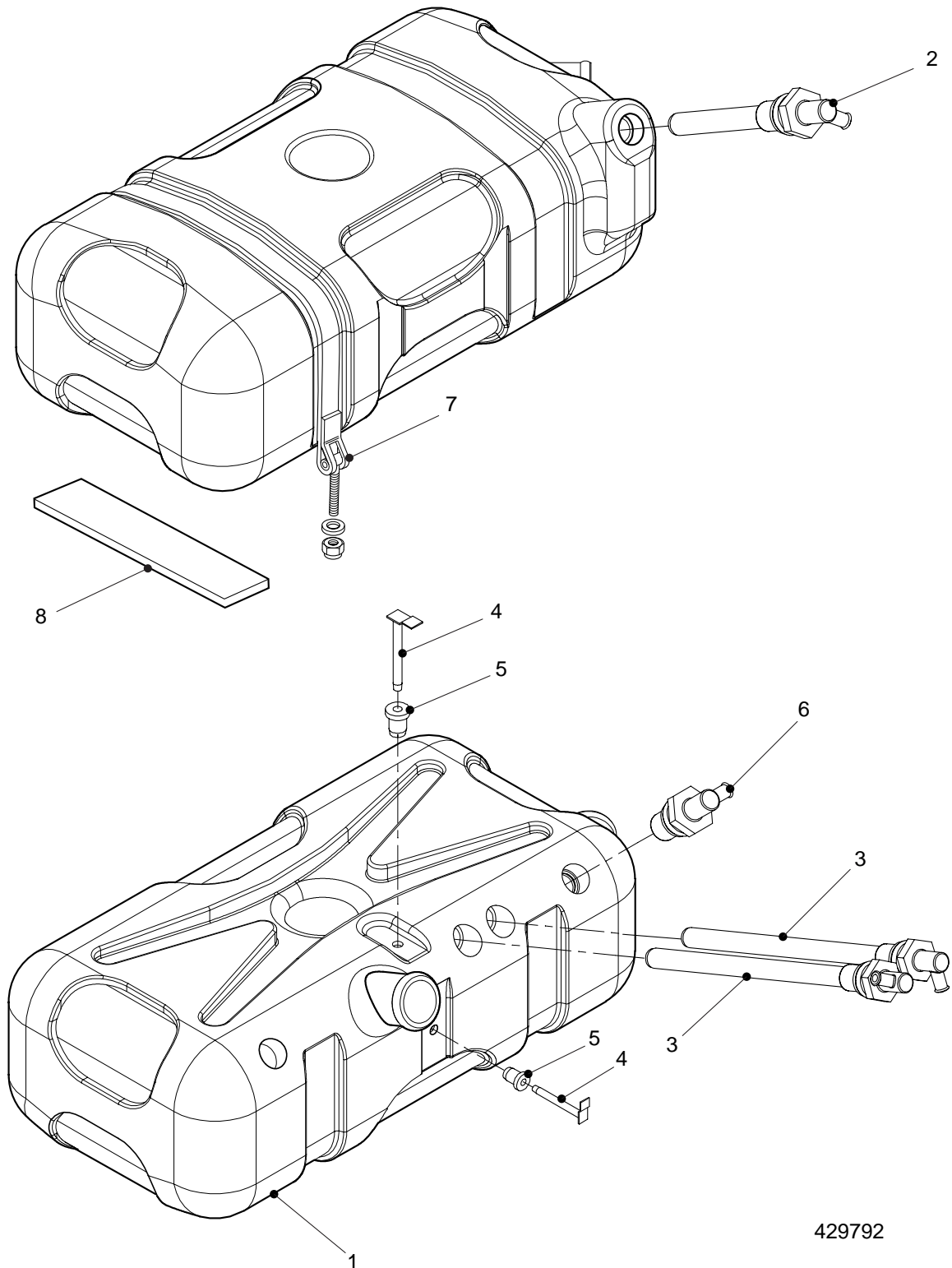
AMENDED:101204

UNIT NO:R1511A&B.R1513C.R1514A&B.R1515A&B



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|-----------|---------|
| 1 | Intercooler insert | 1 | 430554 | |
| 2 | Hose - convolute - turbo outlet to pipe | 1 | 413894 | |
| ☞ 3a | Clip | 1 | 611005-29 | |
| 3b | Clip | 1 | 611005-15 | |
| 4 | Pipe - turbo to intercooler | 1 | 431745 | |
| 5 | Hose - pipe to intercooler | 1 | 413894 | |
| ☞ 6a | Clip -intercooler to hose | 2 | 611005-29 | |
| ☞ 6b | Clip - hose to coolant pipe | 2 | 611005-29 | |
| 7 | Adaptor - intercooler hose | 2 | 423453 | |
| 8 | Clamp | 2 | 657159 | |
| 9 | O ring | 2 | 657158 | |
| 10 | U clamp - pipe to engine frame | 2 | 656160-17 | |
| 11 | Hose 45° - intercooler to pipe | 1 | 415733 | |
| ☞ 12 | Clip | 2 | 611005-29 | |
| 13 | Pipe - intercooler to engine | 1 | 425502 | |
| 14 | U clamp - pipe to hydraulic reservoir | 1 | 656160-17 | |
| 15 | Hose elbow - pipe to inlet manifold | 1 | 422764 | |
| ☞ 16 | Clip | 2 | 611005-29 | |
| | Bracket - hydraulic tank | 2 | 426681 | |
| 17 | Engine inlet manifold | 1 | 427499 | |
| 18 | Gasket | 1 | 658236 | |
| | NOTE : when an Intercooler is ordered as a spare, items 7, 8 & 9 will not be required as the cooler is an integral assembly having these parts built in. | | | |

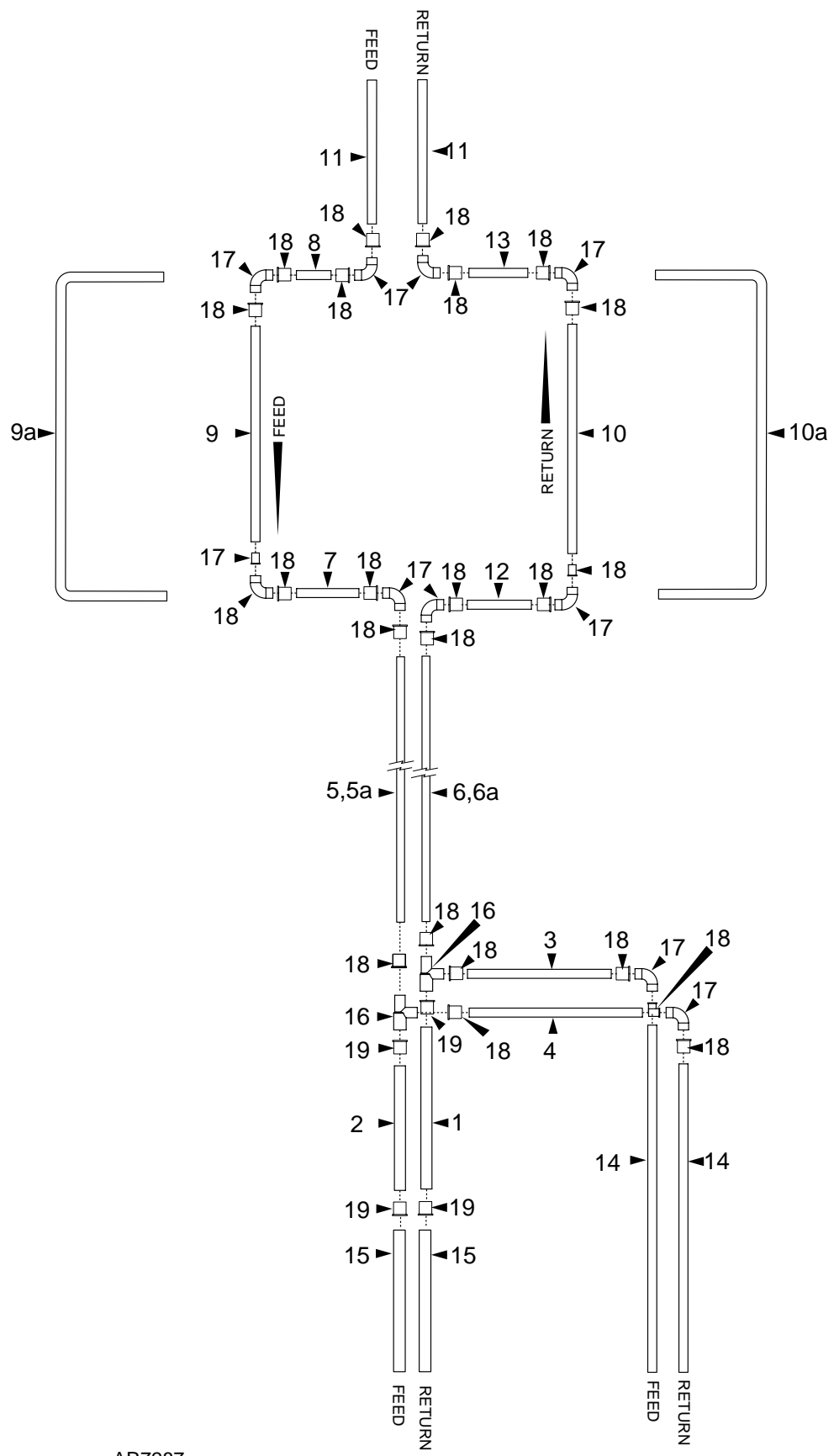
AMENDED:031105



429792

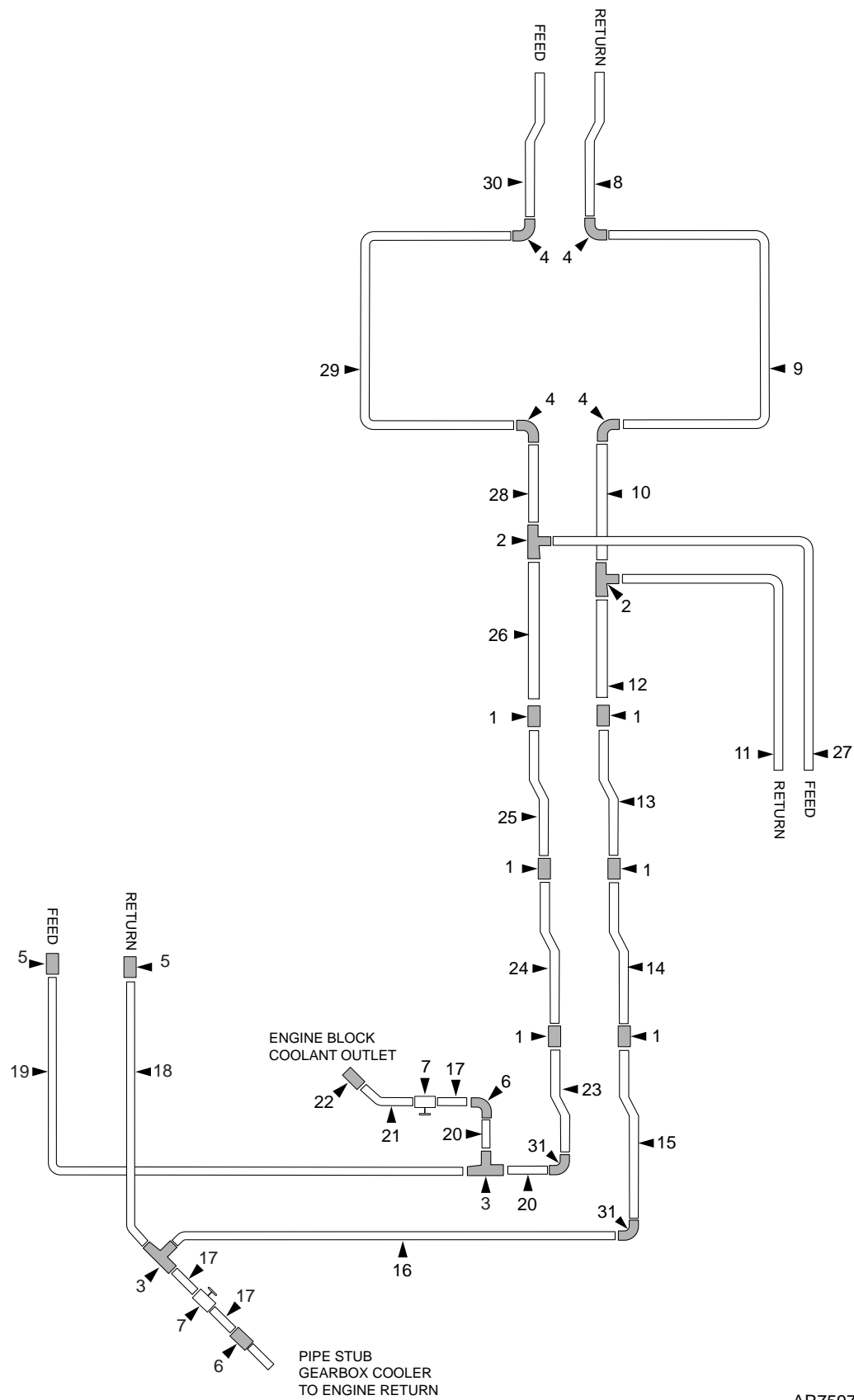
AMENDED:031105

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|----------|---------|
| | Header tank assembly comprising: | 1 | 429792 | |
| 1 | Header tank shell | 1 | 429791 | |
| 2 | Insert - O/D10mm x 100 Lg (from end of thread) | 1 | 428069-1 | |
| 3 | Insert - O/D10mm x 235Lg (from end of thread) | 2 | 428071-1 | |
| 4 | Probe - coolant level | 1 | 652489 | |
| 5 | Grommet - coolant probe | 1 | 652490 | |
| 6 | Insert - O/D10mm x 0 Lg (from end of thread) | 1 | 658286-1 | |
| 7 | Clamp - header tank | 2 | 432308 | |
| 8 | Rubber strip - self adhesive - header tank brackets | 2 | 656768 | |



AR7287

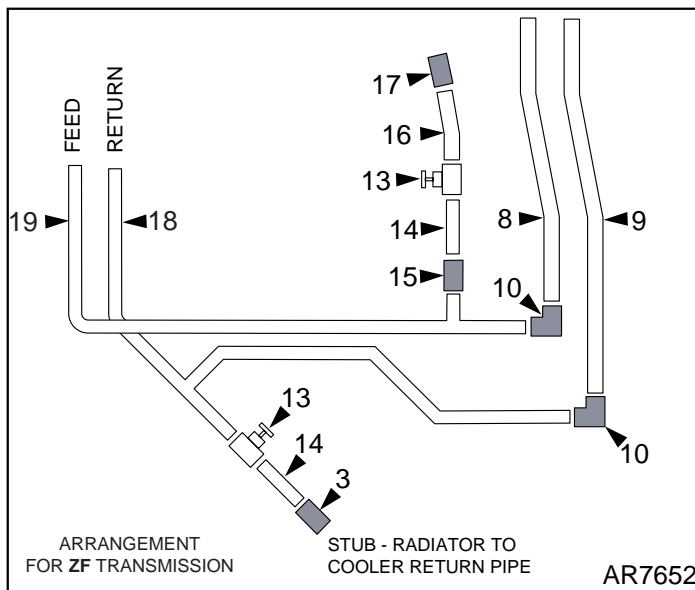
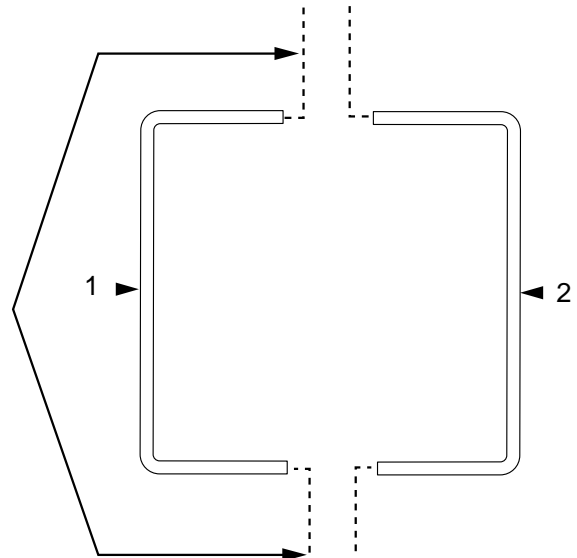
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|----------|------------------------|
| | HEATER PIPES - 5.8 m wheelbase | | | AL1522-14 |
| | HEATER PIPES - 5.25 m wheelbase | | | AL1522-13 |
| 1 | Heater pipe - Rear LH | 1 | 93120011 | 28 x 1300 |
| 2 | Heater pipe - Rear RH | 1 | 93120012 | 28 x 1340 |
| 3 | Heater pipe - Rear LH | 1 | 93120013 | 22 x 500 |
| 4 | Heater pipe - Rear RH | 1 | 93120014 | 22 x 415 |
| 5a | Heater pipe - LH front axle branch - 5.8 m wheelbase | 1 | 93120022 | 22 x 2850 |
| ☞ 5b | Heater pipe - LH front axle branch - 5.25 m wheelbase | 1 | 93120015 | 22 x 2300 |
| 6a | Heater pipe - RH front axle branch - 5.8 m wheelbase | 1 | 93120023 | 22 x 2930 |
| ☞ 6b | Heater pipe - RH front axle branch - 5.25 m wheelbase | 1 | 93120016 | 22 x 2380 |
| 7 | Heater pipe - Front axle | 1 | 93120017 | 22 x 180 |
| 8 | Heater pipe - Front axle | 1 | 93120024 | 22 x 100 |
| 9 | Heater pipe - Front axle | 1 | 93120018 | 22 x 740 |
| 10 | Heater pipe - Front axle | 1 | 93120025 | 22.x 780 |
| 11 | Heater pipe - front axle to demister | 1 | 93120019 | 22 x 3140 |
| 12 | Heater pipe - front axle | 1 | 93120020 | 22 x 185 |
| 13 | Heater pipe - front axle | 2 | 93120026 | 22 x 170 |
| 14 | Straight connector - 28mm | 2 | 77112129 | |
| 15 | Heater pipe - branch RH rear | 2 | 93120027 | 22 x 2000 |
| 16 | Tee piece - 28mm x 22mm x 22mm | 2 | 77132013 | 28 x 22 x 22 |
| 17 | Elbow - 22mm x 22mm | 10 | 77122113 | 22 x 22 |
| 18 | Pipe support sleeve - 22mm | 24 | 86860316 | |
| 19 | Pipe support sleeve - 28mm | 4 | 86860317 | |
| | Clip - 22mm- | 32 | 68250102 | |
| | Clip - 28mm | 6 | 68250285 | |
| | Clip - 32mm | 16 | 68250112 | |
| | Spacer | 1 | 400622-8 | |
| | Bracket | 2 | 401825 | |
| ☞ | HEATER PIPES - 5.25 wheelbase | | | AL1522-18 |
| ☞ | HEATER PIPES - 5.8 m wheelbase | | | AL1522-19,20,21 |
| 9a | Heater pipe - LH over front axle (replaces 9,17 & 18) | 1 | 436078 | |
| 10a | Heater pipe - RH over front axle (replaces 10,17 & 18) | 1 | 436079 | |
| | All other parts as listed above | | | |



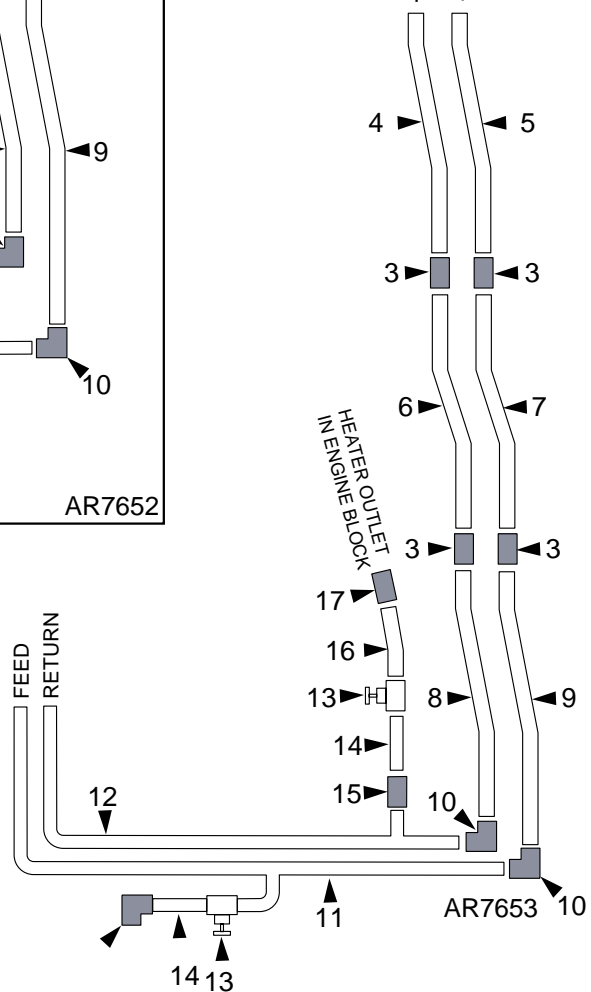
AR7597

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|----------|-----------------|
| | HEATER PIPES - COPPER (WPO52898) | | | OL1526-1 |
| 1 | Hose | 6 | 434250-2 | 28 |
| 2 | Hose - Tee piece | 2 | 436989 | 28 x 22 x 22 |
| 3 | Hose - Tee piece | 2 | 436959 | 28 x 28 x 22 |
| 4 | Hose elbow | 10 | 436988-1 | 22 x 22 |
| 5 | Hose | 2 | 435204-1 | 22 |
| 6 | Hose elbow | 2 | 434249-5 | 28 x 28 |
| 7 | Valve | 1 | 658650 | |
| 8 | Heater pipe | 1 | 437688 | |
| 9 | Heater pipe | 1 | 437667 | |
| 10 | Heater pipe | 1 | 437666 | |
| 11 | Heater pipe | 1 | 437665 | |
| 12 | Heater pipe | 1 | 437664 | |
| 13 | Heater pipe | 1 | 437663 | |
| 14 | Heater pipe | 1 | 437662 | |
| 15 | Heater pipe | 1 | 437661 | |
| 16 | Heater pipe | 1 | 437660 | |
| 17 | Heater pipe | 3 | 429610 | |
| 18 | Heater pipe | 1 | 437659 | |
| 19 | Heater pipe | 1 | 437650 | |
| 20 | Heater pipe | 1 | 435762 | |
| 21 | Heater pipe | 1 | 433979 | |
| 22 | Hose | 1 | 659310 | |
| 23 | Heater pipe | 1 | 437651 | |
| 24 | Heater pipe | 1 | 437652 | |
| 25 | Heater pipe | 1 | 437653 | |
| 26 | Heater pipe | 1 | 437654 | |
| 27 | Heater pipe | 3 | 437655 | |
| 28 | Heater pipe | 1 | 437656 | |
| 29 | Heater pipe | 1 | 437657 | |
| 30 | Heater pipe | 1 | 437658 | |
| 31 | Hose elbow | 2 | 434249-2 | |

REFER TO BODYBUILDER HEATER PIPE ARRANGEMENT BETWEEN FRONT AND REAR AXLE PIPES AND UPPER DECK PIPEWORK



ARRANGEMENT FOR VOITH TRANSMISSION

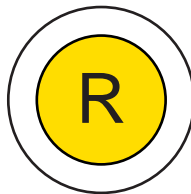
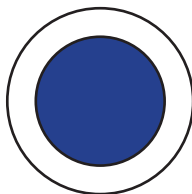
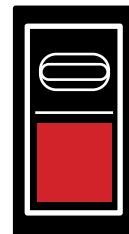
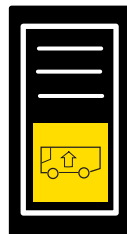
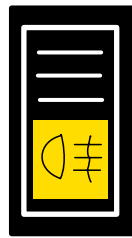
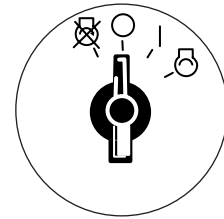
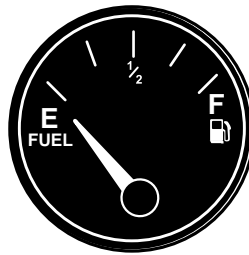
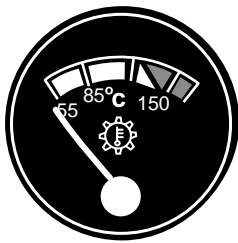
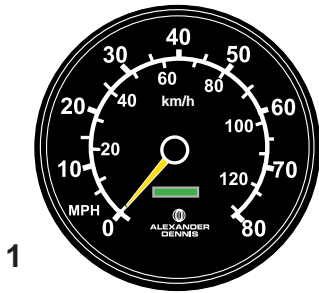


| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|----------------------------------|---------|----------|-----------------|
| ☞ | HEATER PIPES - ZF | | | AL1521-6 |
| ☞ | HEATER PIPES - VOITH | | | AL1521-7 |
| 1 | Heater pipe - LH over front axle | 1 | 436078 | |
| 2 | Heater pipe - RH over front axle | 1 | 436079 | |
| 3 | Hose | 5 | 434250-2 | |
| 4 | Heater pipe | 1 | 426695 | |
| 5 | Heater pipe | 1 | 426697 | |
| 6 | Heater pipe | 1 | 437873 | |
| 7 | Heater pipe | 1 | 437875 | |
| 8 | Heater pipe | 1 | 437651 | |
| 9 | Heater pipe | 1 | 437661 | |
| 10 | Hose elbow | 2 | 434249-2 | |
| 11 | Heater pipe | 1 | 438091 | |
| 12 | Heater pipe | 1 | 438090 | |
| 13 | Valve | 1 | 658650 | |
| 14 | Pipe - valve | 1 | 429610 | |
| 15 | Hose | 1 | 434249-4 | |
| 16 | Pipe - valve | 1 | 433979 | |
| 17 | Hose - | 1 | 659310 | |
| 18 | Heater pipe | 1 | 438093 | |
| 19 | Heater pipe | 1 | 438090 | |

DENNIS

SECTION 5.2

| | | |
|--|------|-------------|
| Instrument panel | Page | 5.2.2 - 3 |
| Front electrical distribution centre components (FEDC) | Page | 5.2.4 - 7 |
| Rear electrical distribution centre (REDC) | Page | 5.2.8 - 9 |
| Battery carrier area | Page | 5.2.10 - 11 |
| Battery boost - remote - AL1513-1 | Page | 5.2.11 |
| Harnesses | Page | 5.2.12 |
| Cables | Page | 5.2.13 |
| Switches | Page | 5.2.14 |
| Relay labels | Page | 5.2.14 |
| Miscellaneous | Page | 5.2.14 |
| Trafficator buzzer - AL307-1&-2 | Page | 5.2.15 |
| Earth cable strap | Page | 5.2.15 |
| Retarder off warning -ZF - AL1526-1 | Page | 5.2.15 |
| Retarder off warning -Voith - AL1526-1 | Page | 5.2.15 |
| Steering Column switch - OL1516-1 & 2 | Page | 5.2.15 |
| External emergency switch - battery carrier - AL1532-1 | Page | 5.2.15 |
| Drivers cab reset switch | Page | 5.2.15 |



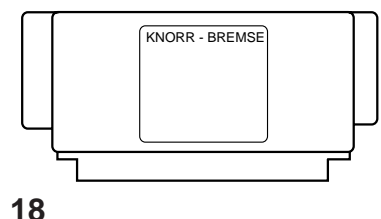
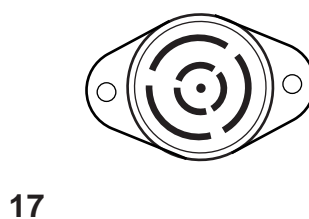
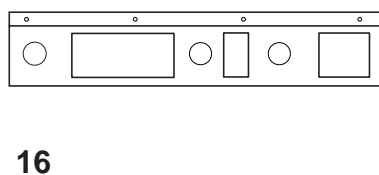
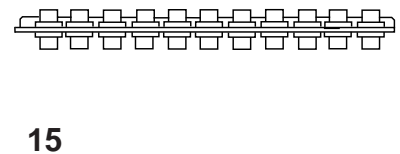
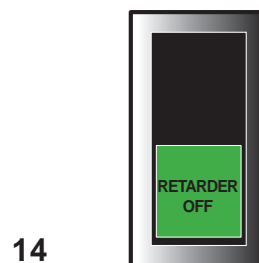
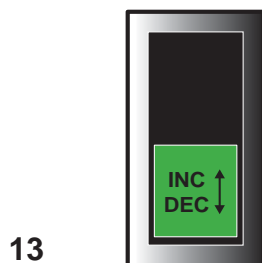
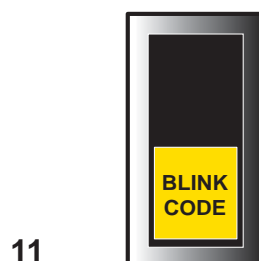
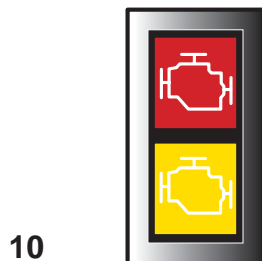
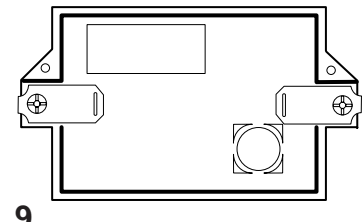
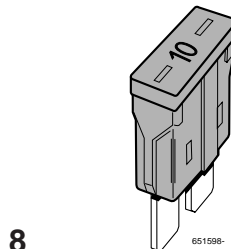
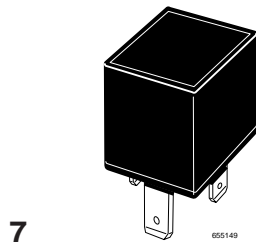
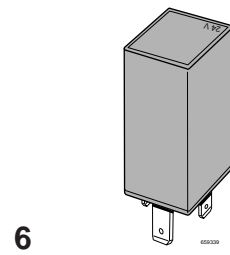
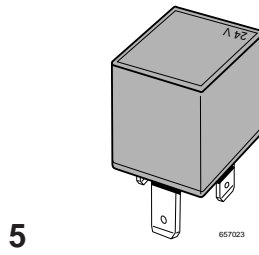
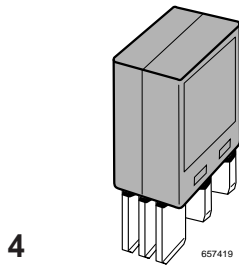
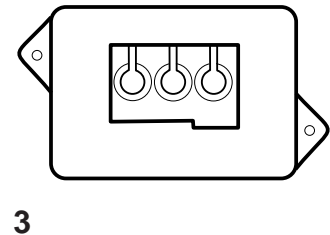
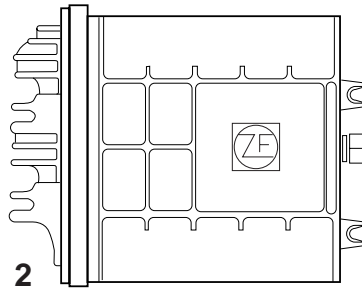
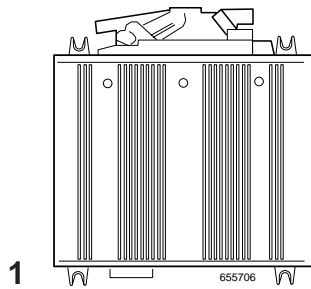
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17



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|------------|---------|
| | For panel assemblies & spares , See Section 9.2 | | | |
| | INSTRUMENT PANEL ASSEMBLY | | | |
| 1 | Speedometer - digital odometer - mph | 1 | 658178 | |
| 2 | Tachograph - Dual scale - 1 day | 1 | 656253 | |
| 3a | Gauge air pressure - "1" | 1 | 656130 | |
| 3b | Gauge air pressure - "2" | 1 | 656131 | |
| 3c | Gauge air pressure - "3" | 1 | 660221 | |
| 4 | Gauge - gearbox oil temperature - ZF | 1 | 656133 | |
| 5a | Gauge - Fuel | 1 | 656132 | |
| 5b | Gauge - Fuel - Fozmula | 1 | 659875 | |
| | Blank - gauge | 1 | 656134 | |
| 6 | Switch - starter - ignition | 1 | 651049 | |
| 7 | Switch - master light | 1 | 657311-50 | |
| | Lens - master switch | 1 | 612319-71 | |
| 8 | Switch - rear fog | 1 | 657311-11 | |
| | Lens - rear fog | 1 | 612319-3 | |
| 9 | Switch - hazard warning | 1 | 657311-66 | |
| | Lens - hazard | 1 | 612319-46 | |
| 10 | Switch - master ignition | 1 | 657311-11 | |
| | Len - master - ignition | 1 | 612319-19 | |
| | Blank- switch | 2 | 612317 | |
| 11 | Switch - ferry lift | 1 | 657311-11 | |
| | Lens - ferry lift | 1 | 612319-54 | |
| 12 | Switch - Locking - Emergency shutdown | 1 | 612314-100 | |
| | Lens - Red | 1 | 612319-28 | |
| 13a | Push button - Blue - air suspension - Raise | 1 | 656215 | |
| 13b | Push button - Black - air suspension - Kneel/Full kneel | 2 | 656214 | |
| | Switching element | 1 | 656211 | |
| 14 | Push button - yellow - reverse interlock | 1 | 656599 | |
| | Switching element | 1 | 656211 | |
| | Label - reverse interlock | 1 | 414566 | |
| 15 | Blank - retarder switch | 1 | 655031 | |
| 16 | Mask - warning light module - "wait to start" | 1 | 659783 | |
| 17 | Mask - warning light module - "glow plug" | 1 | 660179 | |

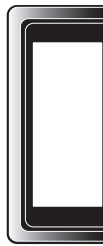


| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|-----------|----------------|
| | FRONT ELECTRICAL DISTRIBUTION PANEL | | | |
| 1 | Control module - chassis | 1 | 655706 | |
| | Label- blinkcode | 1 | 422012 | |
| 2 | Electronic control unit -Voith/ZF (See gearbox Section) | - | - | |
| 3 | Trigger switch - 10 kph | 1 | 656707 | |
| 4 | Relay -"mini" | 14 | 657419 | |
| | Base - mini relay | A/R | 659383 | |
| | Terminal - large | 1 | 651858 | |
| | Terminal - small | 1 | 658293 | |
| 5 | Relay -ignition | 1 | 657023 | |
| 6 | Relay - fog light | 2 | 659339 | |
| 7 | Diode pack | 4 | 655149 | |
| 8a | Add-a-fuse - 3A - <i>VIOLET</i> | 2 | 651598-2 | |
| 8b | Add-a-fuse - 5A.- <i>TAN</i> | 6 | 651598-4 | |
| 8c | Add-a-fuse - 7.5A - <i>BROWN</i> | 1 | 651598-5 | |
| 8d | Add-a-fuse - 10A - <i>RED</i> | 1 | 651598-6 | |
| 8e | Add-a-fuse - 15A - <i>BLUE</i> | 1 | 651598-7 | |
| 8f | Add-a-fuse - 20A - <i>YELLOW</i> | 1 | 651598-8 | |
| | Bracket - fuse box | 1 | 421385 | |
| 9 | Connector box | 1 | 656192 | |
| 10 | Warning light lens holder- 2 way | 1 | 612718 | |
| | Lens - engine warning - <i>YELLOW</i> | 1 | 655216-8 | |
| | Lens - engine stop - <i>RED</i> | 1 | 655216-9 | |
| 11 | Switch - Actia & ABS - blinkcode | 3 | 612314-6 | |
| | Lens - blinkcode - <i>YELLOW</i> | 3 | 612319-85 | |
| 12 | Warning light lens holder- 2 way | 1 | 612718 | |
| | Lens - "wait to start" - <i>YELLOW</i> | 1 | 655216-19 | |
| | Lens - water in fuel - <i>YELLOW</i> | 1 | 655216-20 | |
| 13 | Switch - "inc/dec" | 1 | 612314-96 | |
| | Lens - "inc/dec" - <i>GREEN</i> | 1 | 655216-10 | |
| 14 | Switch - "Retarder off" | 1 | 612314-2 | |
| | Lens - retarder - <i>GREEN</i> | 1 | 612319-61 | |
| 15 | Bracket - mounting - connectors | 1 | 427922 | |
| 16 | Bracket - diagnostic switches | 1 | 429995 | |
| 17 | Buzzer - trafficator | 2 | 609998 | AL307-2 |
| | Used on & up to Chassis No 2543 not including 2400 | | | |
| ☞ 18a | Electronic control unit - ABS | 1 | 658880 | Knorr Type 104 |
| | Connector | 1 | 659588 | |
| | Used on and after Chassis No 2544 including 2400 | | | |
| ☞ 18b | Electronic control unit - ABS - j1939 compatible | 1 | 659974 | Knorr Type 115 |

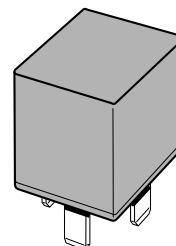
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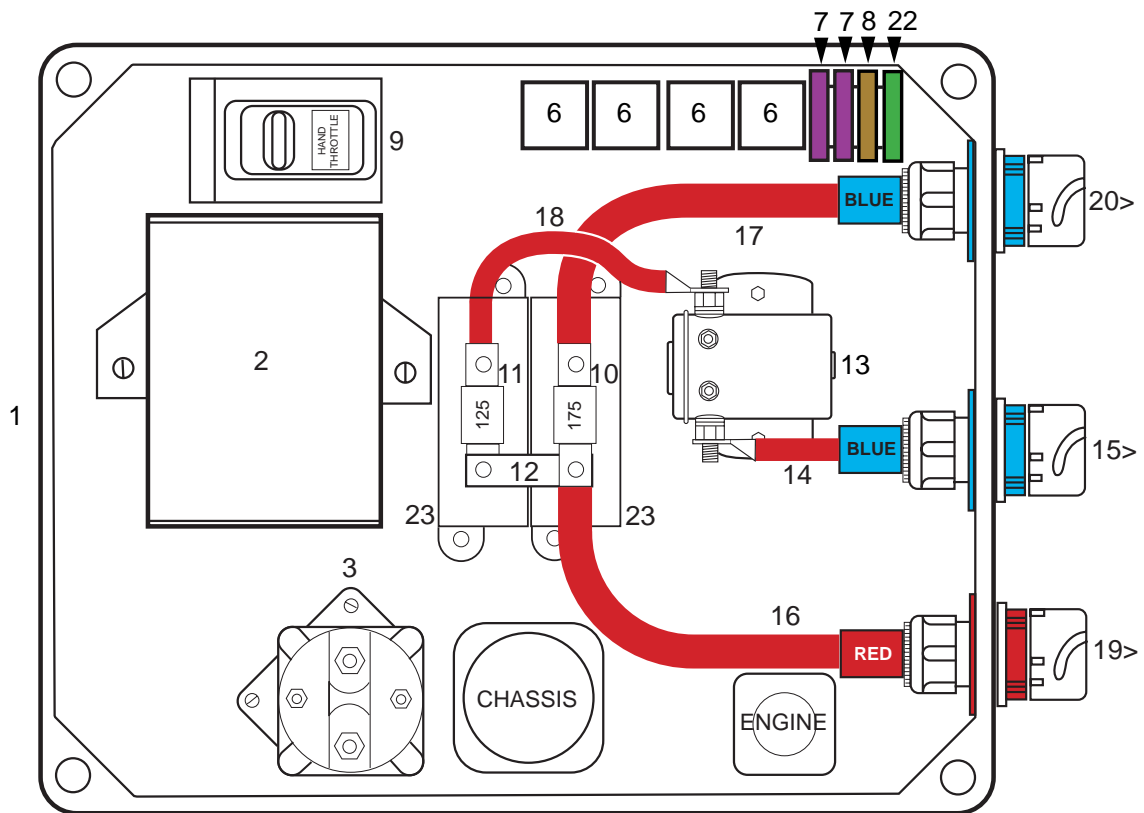
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| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|-------------------------|---------|---------|---------|
| 19 | Switch housing - centre | 2 | 655123 | |
| 20 | Switch housing - end | 2 | 655124 | |
| 21 | Relay - speed signal | 1 | 651438 | |
| | Label - FEDC | 1 | 436105 | |

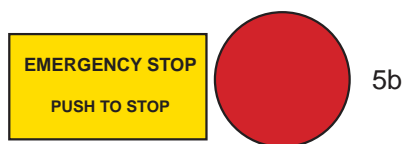


21a

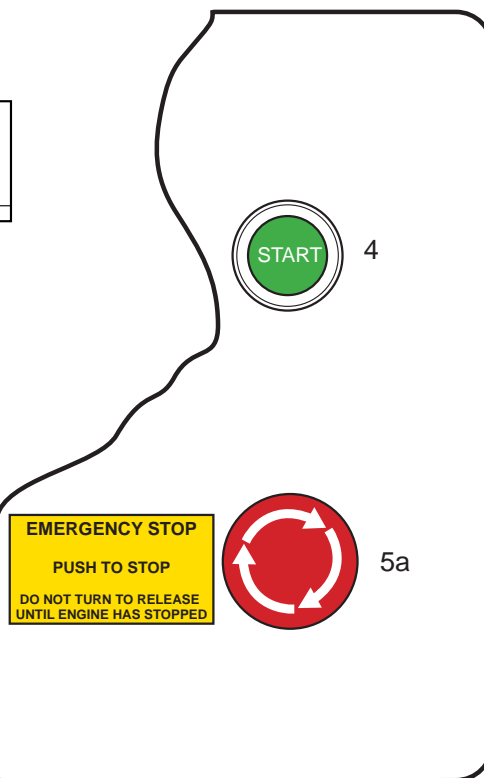
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|-----------------------------|-----------------------------|-----------------------------|--|--------------------------|-----------------------------|-----------------------------|----------------------------|
| POD DOOR OPEN WARNING LIGHT | POD DOOR OPEN START INHIBIT | GEAR SELECTED START INHIBIT | ALTERNATOR CONTROLLED SECOND NO CHARGE WARNING LIGHT | 5A M/SWITCH ACTIA MODULE | 5A ALTERNATOR WARNING LIGHT | 3A IGNITION-OD DOOR CIRCUIT | 40A M/SWITCH STARTER RELAY |
| 437582 | | | | | | | |

21b

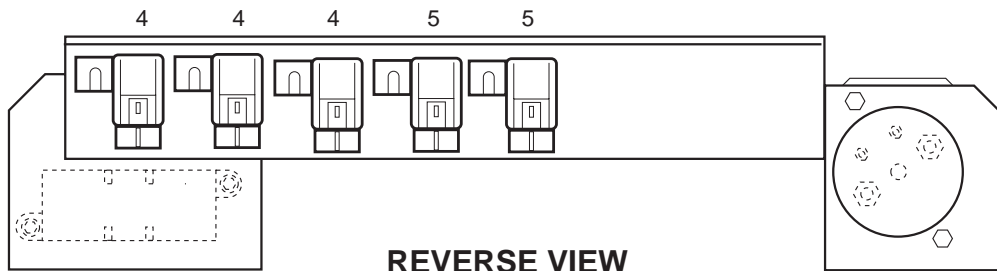
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|-----------------------------|-----------------------------|-----------------------------|--|--------------------------|-----------------------------|-----------------------------|
| POD DOOR OPEN WARNING LIGHT | POD DOOR OPEN START INHIBIT | GEAR SELECTED START INHIBIT | ALTERNATOR CONTROLLED SECOND NO CHARGE WARNING LIGHT | 5A M/SWITCH ACTIA MODULE | 5A ALTERNATOR WARNING LIGHT | 3A IGNITION-OD DOOR CIRCUIT |
|-----------------------------|-----------------------------|-----------------------------|--|--------------------------|-----------------------------|-----------------------------|



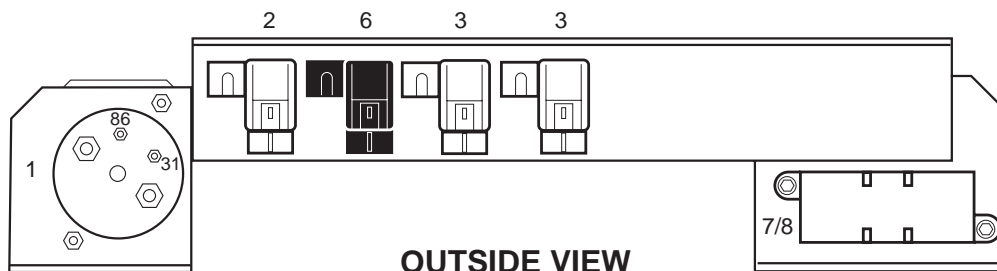
MOMENTARY STOP



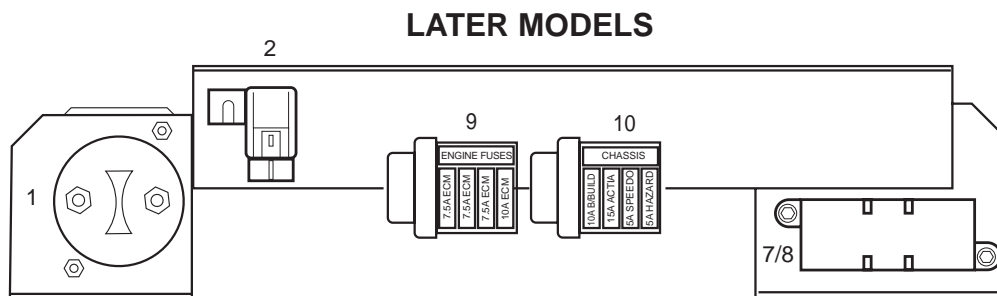
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|-----------|---------------|
| | REAR ELECTRICAL DISTRIBUTION CENTRE | | | |
| 1 | Rear junction box | 1 | 429555 | |
| | Label - emergency stop | 1 | 425132 | |
| 2 | Rear module - coolant level | 1 | 655944 | |
| 3 | Relay - starter motor | 1 | 655933 | |
| 4 | Switch - start - green | 1 | 656600 | |
| | Switching element | 1 | 656211 | |
| 5a | Switch - stop - red | 1 | 657552 | |
| | Loctite | A/R | 660693 | |
| | Label - "Emergency Stop" | 1 | 425132 | |
| 5b | Switch - momentary stop | 1 | 660580 | |
| | Label - "Emergency Stop" - momentary | 1 | 434552 | |
| 6 | Relay | 4 | 657419 | |
| | Label - "pod flap warning lamp | 1 | 260542-13 | |
| | Label - "alternator control" | 1 | 260542-15 | |
| | Label - "pod flap start inhibit | 1 | 415701-18 | |
| | Label - "Gear select start inhibit" | 1 | 415701-32 | |
| 7 | Fuse -3A - (Violet) | 1 | 651598-2 | |
| 8 | Fuse -5A - (Tan) | 2 | 651598-4 | |
| 9 | Switch - Hand throttle | 1 | 612314-96 | |
| | Lens - Hand throttle | 1 | 655216-3 | |
| | Bracket - throttle switch | 14 | 426897 | |
| 10 | Fuse - 175 A | 1 | 660326-4 | |
| 11 | Fuse - 125 A | 1 | 660326-2 | |
| 12 | Link fuse | 1 | 424991 | |
| 13 | Relay - grid heater | 1 | 656901 | |
| 14 | Cable - REDC to grid heater relay | 1 | 427902 | |
| | Connector - <i>BLUE</i> | 1 | 660317 | |
| 15a | Cable - grid heater to REDC | 1 | 430293 | |
| 16 | Cable - Alternator fuse 175A to starter motor | 1 | 429553 | |
| | Connector - <i>RED</i> | 1 | 660318 | |
| 17 | Cable - Alternator fuse 175A to alternator | 1 | 429554 | |
| | Connector - <i>BLUE</i> | 1 | 660317 | |
| 18 | Cable - grid heater relay to fuse 125A - REDC | 1 | 435878 | |
| 19a | Cable - starter to REDC | 1 | 430292 | |
| 20a | Cable - alternator to REDC | 1 | 430291 | |
| ☞21a | Label - REDC - inside lid | 1 | 436641 | |
| ☞22a | Add-a-fuse - 30A (Green) | 1 | 651598-10 | Starter relay |
| ☞23 | Fuse holder | 1 | 656081 | |
| | Used on & after Chassis No 3158 (including 3065 | | | |
| 15b | Cable - grid heater to REDC | 1 | 437871 | |
| 19b | Cable - starter to REDC | 1 | 437635 | |
| 20c | Cable - alternator to REDC | 1 | 437634 | |
| ☞21b | Label - REDC - inside lid | 1 | 437582 | |
| ☞22b | Add-a-fuse - 40A (Green) | 1 | 651598-11 | Starter relay |



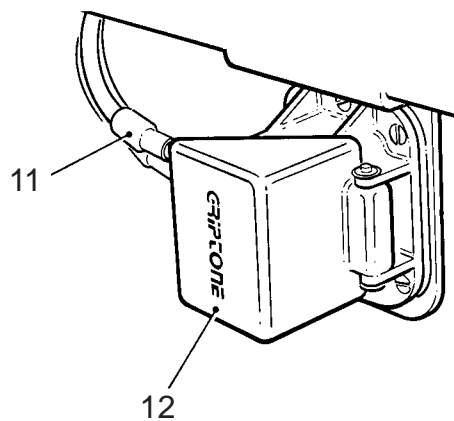
REVERSE VIEW



OUTSIDE VIEW



LATER MODELS



AMENDED:201006

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|-----------|-----------------|
| | BATTERY CARRIER AREA | | | |
| 1 | Master switch - (Kissling - cylinder type) | 1 | 658431 | |
| | Spacer - master switch | 4 | 400622-51 | |
| | Bracket - master switch | 1 | 429872 | |
| | Rubber boot - master switch/alternator/starter | 9 | 610369 | |
| | Rubber boot - master switch/starter | 3 | 611783 | |
| 2 | Add-a-fuse - 2A - Grey | 1 | 651598-1 | |
| 3 | Add-a-fuse - 5A - Orange | 1 | 651598-4 | |
| 4 | Add-a-fuse - 7.5A - Brown | 1 | 651598-5 | |
| 5 | Add-a-fuse - 10A - Red | 1 | 651598-6 | |
| 6 | Add-a-fuse - 25A - Clear | 1 | 651598-9 | |
| | Clip - fuse holder to carrier | 1 | 660512 | |
| 7 | Fuse carrier - bus bar | 1 | 656081 | |
| 8 | Fuse - 150A - bus bar | 1 | 660326-3 | |
| 9 | Label - engine fuses | 1 | 436103 | |
| | Lid - fuse box | 1 | 658997 | |
| | Housing - fuse box | 1 | 660967 | |
| | Terminal | 1 | 661160 | |
| | Rubber boot | 1 | 661161 | |
| | Add-a-fuse - 7.5A - Blue | 3 | 651598-5 | |
| | Add-a-fuse - 10A - Blue | 1 | 651598-6 | |
| 10 | Label - accessory fuses | 1 | 436104 | |
| | Lid - fuse box | 1 | 658997 | |
| | Housing - fuse box | 1 | 660967 | |
| | Terminal | 1 | 661160 | |
| | Rubber boot | 1 | 661161 | |
| | Add-a-fuse - 5A - Orange | 1 | 651598-4 | |
| | Add-a-fuse - 10A - Red | 1 | 651598-6 | |
| | Add-a-fuse - 15A - Blue | 1 | 651598-6 | |
| | BATTERY CARRIER - BOOST OPTION | | | AL1513-1 |
| 11 | Boost socket | 1 | 653847 | |
| 12 | Cables - boost socket | 1 | 434984 | |

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|---------|--------------------------|
| | Used on and up to Chassis No 2543 except 2400 | | | |
| | HARNESSES | | | E1512A-J |
| | Harness - engine | 1 | 429560 | All |
| | Harness - rear EDC | 1 | 430044 | All |
| | Harness - link - top up | 1 | 419974 | All |
| | Harness - extra reverse | 1 | 424250 | E1512A-J |
| | Harness - front - E.D.C. - Voith | 1 | 430270 | E1512A,C,E |
| | Harness - front - E.D.C. - Wabco pedal | 1 | 432972 | E1512G,H,J |
| | Harness - front - E.D.C. - ZF | 1 | 431830 | E1512B,D,F |
| | Harness - front - ZF | 1 | 435030 | All ZF |
| | Harness - front - Voith | 1 | 430269 | E1512A,C,E,G,H,J |
| | Harness - chassis - (10.45m/11.4m chassis) | 1 | 431088 | E1512A,B,D,G |
| | Harness - chassis - (9.9m chassis) | 1 | 430045 | E1512C,E,F,H,J |
| ☞ | Harness - ABS - front | 1 | 440311 | All except P |
| ☞ | Harness - ABS - rear - (9.9m chassis) | 1 | 440312 | E1512A,B,D,F |
| ☞ | Harness - ABS - rear - (10.45m chassis) | 1 | 440791 | E1512C,H |
| | Harness - ferry lift | 1 | 421842 | SS1510B |
| | Harness - momentary switch | 1 | | |
| | Silicon grease | A/R | 657081 | |
| | Used on & upto Chassis No 2544 to 3157 & 2400 | | | |
| | (Not including 3065) | | | |
| | HARNESSES - MY03 | | | E1512 K,L,M,N,P,Q |
| | Harness - chassis - Universal ABS ECU | 1 | 435472 | E1512 K,L,M,N,P,Q |
| | Harness - front - E.D.C | 1 | 437590 | E1512 K,L,M,N,P,Q |
| | Harness - front - Voith | 1 | 435471 | E1512N,P,Q |
| | Harness -sub - front - ZF | 1 | 435470 | E1512K,L,M |
| | Harness - ABS - front | 1 | 430042 | E1512P |
| | Harness - ABS - rear - (10.45m chassis) | 1 | 430863 | E1512P |
| | Harness - ABS - rear - (9.9m chassis) | 1 | 430041 | E1512K,L,M,Q |
| | Harness - ABS - rear - (10.45m chassis) | 1 | 430042 | E1512K,L,M,N,P,Q |
| | Harness - front - (used on 657380- series panels) | 1 | 435030 | All |
| | Harness - front - (used on 660261- series panels) | 1 | 437134 | All |
| | Used on & after Chassis No 3158 (including 3065) | | | |
| | HARNESSES - MY03H | | | E1516 |
| | Harness - rear EDC | 1 | 437580 | All |
| | Harness - engine | 1 | 437632 | All |
| | Harness - chassis | 1 | 437868 | All |
| | Bracket - harness support - ZF only | 1 | 426691 | |

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|---------|------------------|
| | CABLES | | | |
| | Cable - CAN link - 300mm | 1 | 431892 | |
| ☞ | Cable - CAN line repair | 1 | 438801 | |
| | Cable - CAN link extension harness - 450mm | 1 | 432233 | AL1523-1 |
| | Cable - Actia ECU | 1 | 421226 | |
| | Cable - alternator - neg - starter | 1 | 427770 | |
| | Cable - battery to frame | 1 | 421270 | |
| | Cable - battery link | 1 | 423424 | |
| | Cable - starter motor to chassis | 1 | 424269 | |
| | Cable - engine earth strap | 1 | 427572 | |
| | Cable - Bus bar fast fuse to FEDC | 1 | 421273 | |
| | Cable - Bus bar fast fuse to master switch | 1 | 430549 | |
| | Cable - Master switch to starter(9.9m chassis - Voith) | 1 | 431832 | E1512E,F,J,M,Q |
| | Cable - Master switch to starter(9.9m chassis - ZF) | 1 | 430861 | E1512C,H,L,P |
| | Cable - Master switch to starter(10.45m/11.4m chassis) | 1 | 430548 | E1512A,B,D,G,K,N |
| | Cable - battery to master switch | 1 | 430547 | |
| | Cable - proximity switch | 1 | 424998 | |
| | Cable - Trailer - chassis run | 1 | 653296 | AL1532-1 |
| | Terminal - battery - positive | 2 | 656364 | |
| | Terminal - battery - negative | 2 | 656365 | |
| | Bracket - harness | 1 | 401826 | |
| | Bracket - harness | 1 | 403863 | |
| | Bracket - electric cable | 1 | 426785 | |
| | Used on & after Chassis No 3158 (including 3065) | | | |
| | CABLES - MY03H | | | E1516 |
| | Cable - Bus bar fast fuse to master switch | 1 | 433362 | |
| | Cable - Actia ECU - power | 1 | 435497 | |
| | Cable - alternator - neg - starter | 1 | 437633 | |
| | Cable - engine earth strap | 1 | 437870 | |

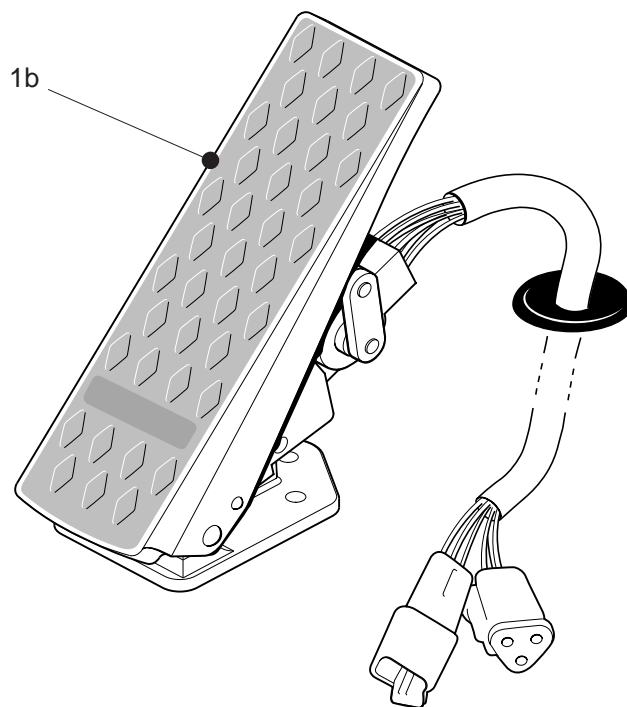
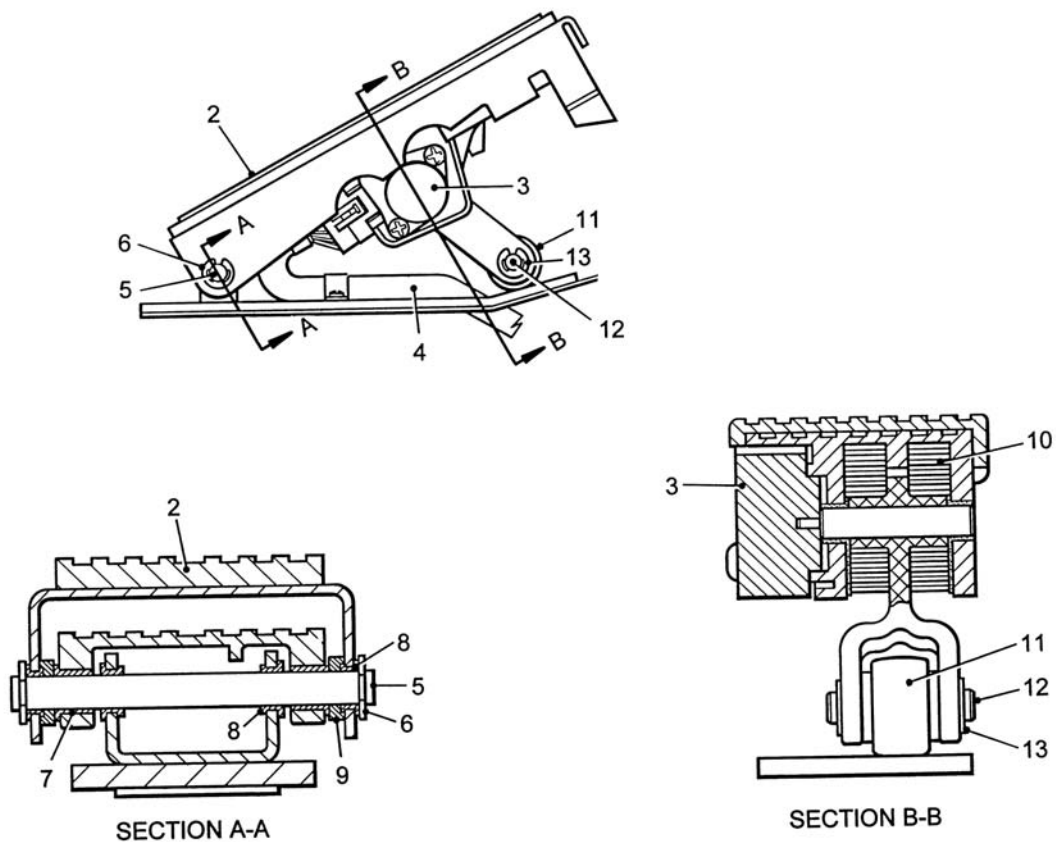
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|-----------|--------------------|
| | SWITCHES | | | |
| | Master switch | 1 | 658431 | 20-25Nm |
| | Spacer | 4 | 606009-12 | |
| | Rubber boot | 4 | 610369 | |
| | Rubber boot | 5 | 611783 | |
| | Steering column switch - R.H.S | 1 | 658812 | |
| | Column clamp | 1 | 429297 | |
| | Harness - temp column switch | 1 | 431672 | |
| | Switch - coolant over tempertaure (warning lamp) | 1 | 657587 | 106°C |
| ☞ | Adaptor - coolant switch | 1 | 652542 | |
| | Switch - proximity | 1 | 657505 | Set gap 6.0-6.4 mm |
| | RELAY LABELS | | | |
| | Label - "Ignition" | 1 | 260542-16 | |
| | Label - "diode pack" | 2 | 260542-61 | |
| | Label - "speed signal" | 2 | 415701-1 | |
| | Label - "Brake lights on retarder" | 2 | 415701-2 | |
| | Label - "reversing lights" | 1 | 415701-3 | |
| | Label - "Master Switch | 1 | 415701-8 | |
| | Label - "Voith control" | 1 | 415701-17 | |
| | Label - "Horn" | 1 | 415701-23 | |
| | Label - "kneel inhibit/handbrake off" | 1 | 415701-25 | |
| | Label - "pad wear" | 1 | 415701-31 | |
| | Label - "raise sensor operated" | 1 | 415701-42 | |
| | Label - "raise handbrake off" | 1 | 415701-44 | |
| | Label - "raise" | 1 | 415701-45 | |
| | Label - "Emergency Engine Stop" | 1 | 415701-51 | |
| | Label - "retarder warning" | 1 | 415701-52 | |
| | Label - "Gearbox fault" | 1 | 415701-55 | |
| | Label - "Suspension speed signal" | 1 | 415701-77 | |
| | Label - "Retarder on/off changeover" | 1 | 415701-78 | |
| | Label - Emergency Stop Control | 2 | 415701-81 | |
| ☞ | Label - "Aladin diag" | 1 | 415701-92 | |
| ☞ | Label - "ABS diag" | 1 | 415701-93 | |
| ☞ | Label - "Engine diag" | 1 | 415701-95 | |
| ☞ | Label - "Ignition" | 1 | 415701-96 | |
| | MISCELLANEOUS | | | |
| | Diode - fan solenoid cap | 1 | 656872 | E1512C |
| | Resistor - wiper motor | 1 | 423837 | |
| | Rubber boot - 140A alternator | 2 | 654200 | |
| | Rubber boot - grid heater to engine | 1 | 654200 | |
| | Horn - high tone | 1 | 655689 | |

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|--------------|-----------------|
| | TRAFFICATOR BUZZER | | | AL307-1 |
| | Beeper | 1 | 694085 | |
| | Harness - beeper | 1 | 420674 | |
| | TRAFFICATOR BUZZER - LOW | | | AL307-2 |
| | Beeper | 1 | 609998 | |
| | Harness - beeper | 1 | 420674 | |
| | ENGINE CABLE EARTH STRAP | | | SL1525 |
| | Cable - earth strap | 1 | 432271 | |
| | RETARDER OFF WARNING - ZF | | | AL1526-1 |
| | Harness - warning buzzer | 1 | 432648 | SK10830 |
| | Buzzer | 1 | 609998 | |
| | Relay | 1 | 657419 | |
| | RETARDER OFF WARNING - VOITH | | | AL1526-2 |
| | Harness - warning buzzer | 1 | 432659 | SK10831 |
| | Buzzer | 1 | 609998 | |
| | STEERING COLUMN SWITCH - L.H.S | | | OL1516-1 |
| | Steering column switch - L.H.S (T.W.M 52539/52683) | 1 | 656700 | |
| | Column clamp | 1 | 427853 | |
| | STEERING COLUMN SWITCH - L.H.S | | | OL1516-2 |
| | Steering column switch - L.H.S (T.W.M 52754/52859) | 1 | 657886 | |
| | EXTERNAL EMERGENCY Switch - battery carrier | | | AL1532-1 |
| | Switch - external shutdown | 1 | 660250 | |
| | Mounting plate - switch | 1 | 433161 | |
| | Screw - switch to plate | 4 | BAS 1602 5SP | |
| | Nut - self locking | 4 | BAN 702 AP | |
| | DRIVERS CAB RESET SWITCH | | | AL1532-1 |
| | Switch - start - green | 1 | 656600 | |
| | Switching element | 1 | 656211 | |
| | Label - reset instructions | 1 | 437049 | |
| | Buzzer | 1 | 609998 | |
| | FORCED IDLE RETROFIT | | | SL1984 |
| | Harness - forced idle | 1 | 438813 | SK11223 |

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SECTION 6.1

Engine controlsPage 6.1.2 - 3

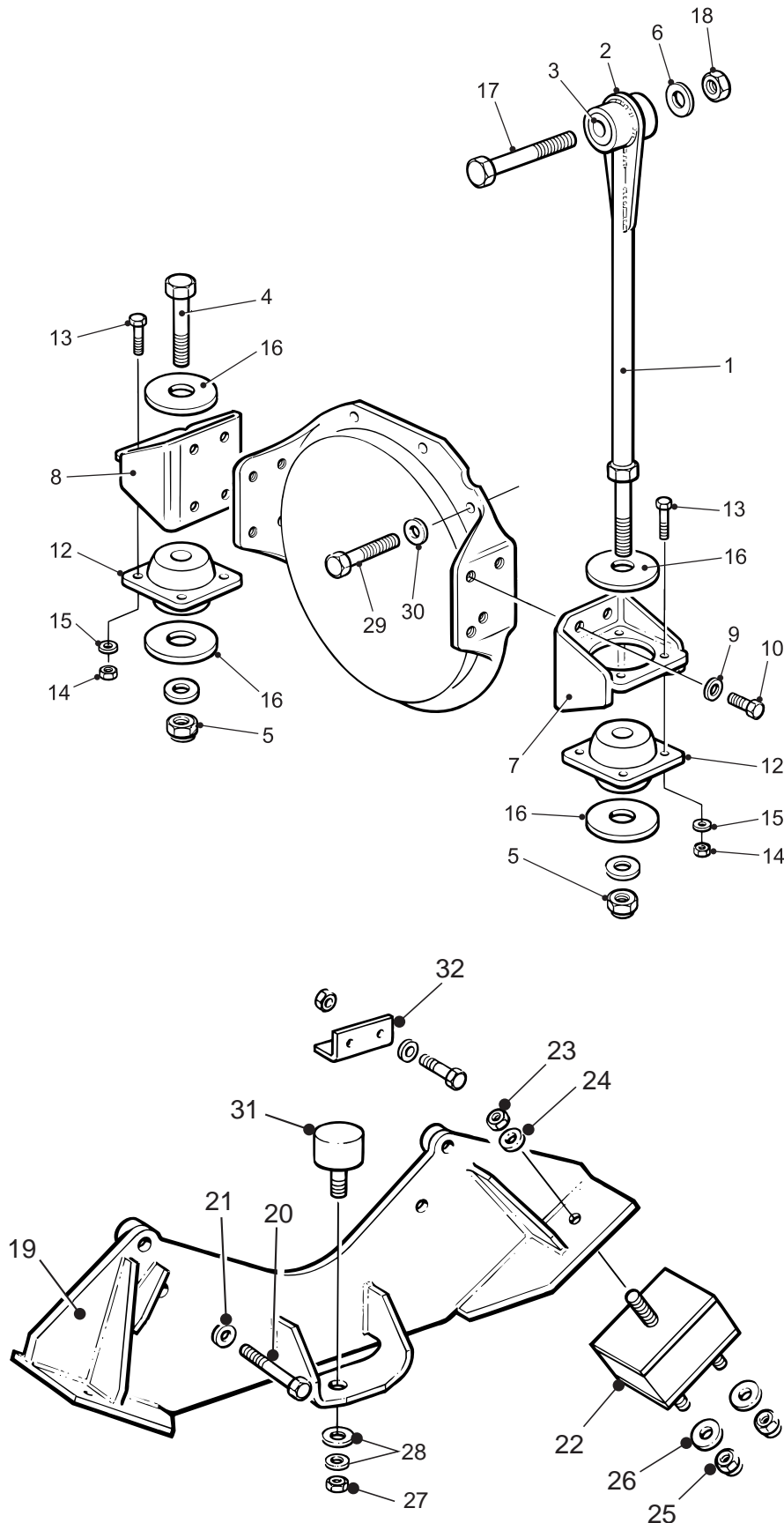


| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---------------------------------------|---------|-------------|---------|
| 1a | Accelerator pedal assembly | 1 | 656919 | EC1511A |
| 2 | Rubber - treadle top plate | 1 | 656919-5 | |
| | Service kits | | | |
| | Sensor kit - comprising:- | 1 | 656919-1 | |
| 3 | Sensor | 1 | | |
| 4 | Wiring harness | 1 | 656919-2 | |
| | Treadle pin kit - comprising:- | 1 | 656919-3 | |
| 5 | Pin | 1 | | |
| 6 | 'E' clip | 2 | | |
| 7 | Bearing (treadle) | 2 | | |
| 8 | Bearing (plates) | 4 | | |
| 9 | Spacer | 2 | | |
| 10 | Spring | 1 | | |
| | Roller kit - comprising:- | 1 | 656919-4 | |
| 11 | Roller | 1 | | |
| 12 | Pin | 1 | | |
| 13 | 'E' clip | 2 | | |
| | Screw | 1 | MCS 108 20P | |
| | Nut | 3 | MCN 508P | |
| 1b | Accelerator pedal assembly | 1 | 660583 | EC1511B |
| | Setscrew M8 x 30 | 2 | MCS-108-25P | |
| | Nut, full Nyloc M8 | 2 | MCN-708P | |
| | Washer, spring M8 - at rear of pedal | 1 | WMA-8SP | |

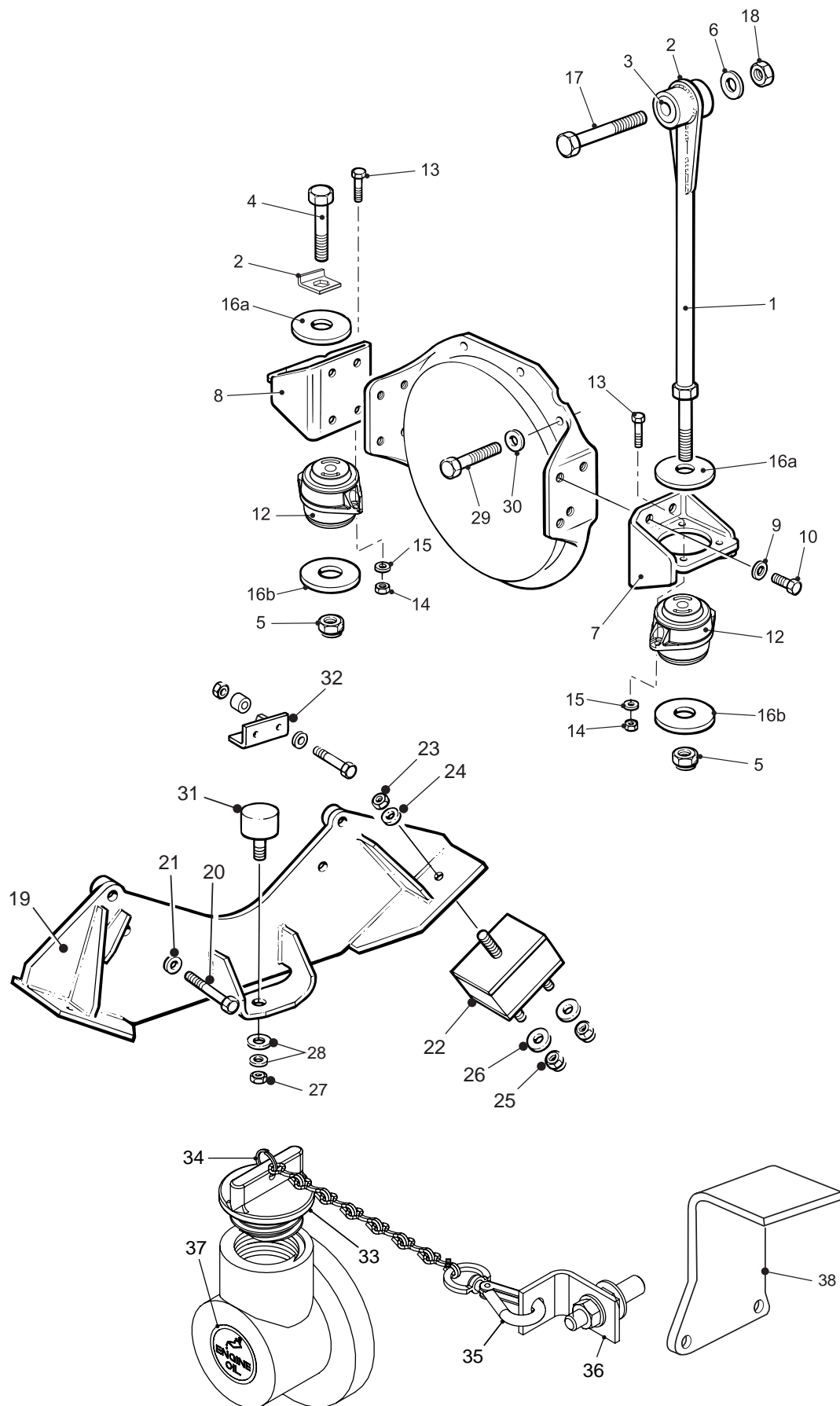
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SECTION 6.2

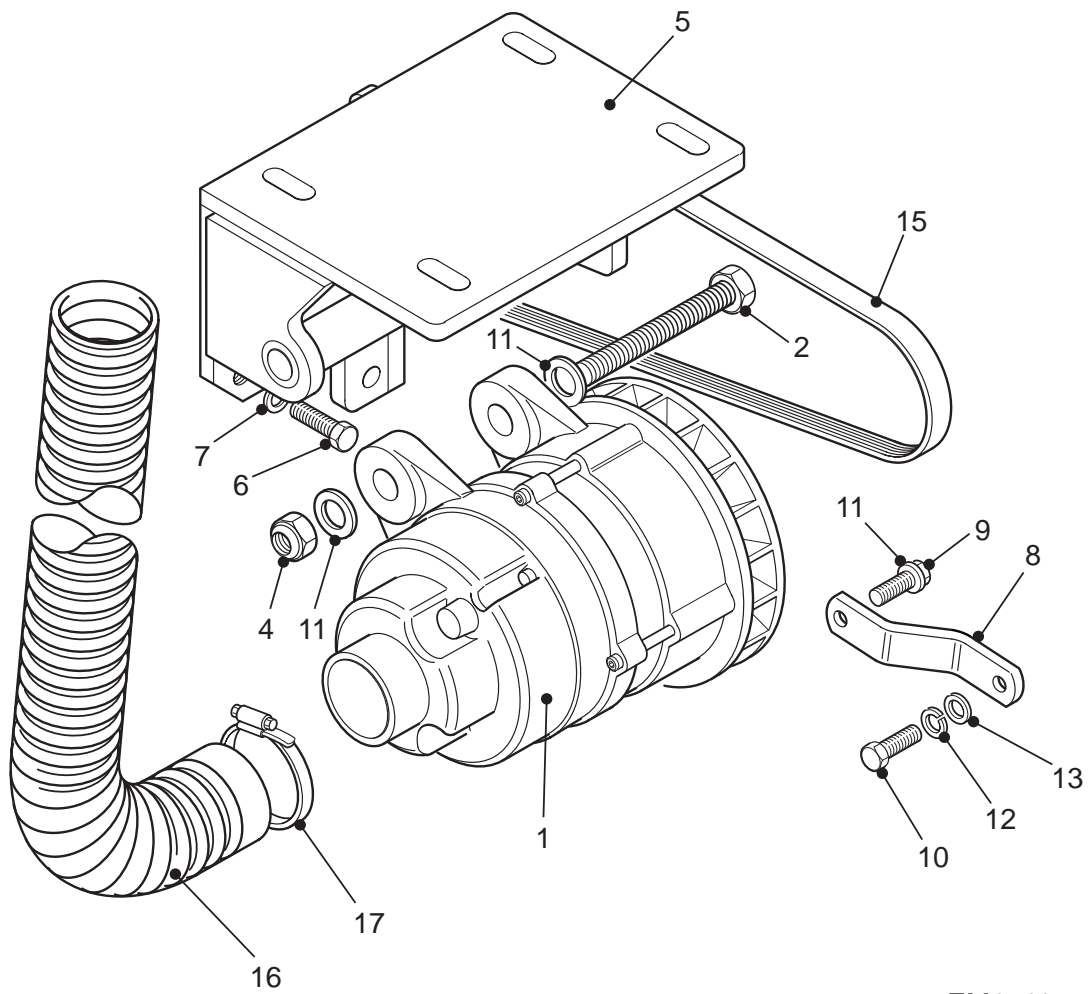
| | | |
|--|------|-----------|
| Engine and Mounting - Voith/ZF | Page | 6.2.2 - 5 |
| Oil filler retention - AL1532-1 | Page | 6.2.5 |
| Alternator mounting | Page | 6.2.7 - 8 |
| Lift pump relocation | Page | 6.2.8 |
| Air conditioning assembly - AL1512-2 | Page | 6.2.8 |
| Air conditioning assembly - Sutrak - AL1512-12 | Page | 6.2.8 |
| Extended breather - SL1616 | Page | 6.2.8 |
| Coolant test point - OL1524-1 | Page | 6.2.8 |



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|--------------|--------------|
| | Engine - Cummins C225 - 30 - VOITH | 1 | 658226 | EM1511/1512A |
| | Engine - Cummins C225 - 30 - ZF | 1 | 658227 | EM1511/1512B |
| | Engine - Cummins C260 - 30 - VOITH | 1 | 658228 | EM1511C |
| | Engine - Cummins C260 - 30 - ZF | 1 | 658229 | EM1511D |
| | Compressor | 1 | 657463 | |
| | Starter motor | 1 | 660118 | (658032) |
| 1 | Rear engine stay assembly - M24 | 1 | 425867 | 200 Nm |
| 2 | Retainer - rear engine mounting bolt | 1 | 437068 | |
| 3 | Bush - engine stay | 1 | 657138 | |
| 4 | Bolt-rear engine mounting - M24 | 1 | MFB 124 190P | |
| 5 | Nut-self locking - M24 (Use once only do not re-torque) | 2 | MFN 524P | |
| 6 | Washer- plain | 1 | WMA 22SP | |
| 7a | Engine mounting bracket - RH - VOITH | 1 | 425699 | EM1511A |
| 8a | Engine mounting bracket - LH - VOITH | 1 | 425700 | |
| 9a | Washer - spring | 8 | WMC 16SP | |
| 10a | Screw | 8 | MCS 116 30P | 249-275 Nm |
| 7b | Engine mounting bracket - RH - ZF | 1 | 425701 | EM1511B |
| 8b | Engine mounting bracket - LH - ZF | 1 | 425702 | |
| 9b | Washer- spring | 8 | WMC 16SP | |
| 10b | Bolt | 8 | MFB 116 65P | 225Nm |
| 11 | Spacer - engine mounting bracket - ZF | 2 | 421624 | ZF only |
| 12 | Engine mounting - gearbox | 2 | 657639 | |
| 13 | Bolt | 8 | MCB 112 40P | |
| 14 | Nut - self locking - (Use once only do not re-torque) | 8 | MCN 512P | |
| 15 | Washer- plain | 8 | WMA 12SP | |
| 16a | Washer - rebound - upper | 2 | 412711 | |
| 16b | Washer - rebound - lower | 2 | 437801 | |
| 17 | Bolt - Upper - engine stay - M22 | 1 | MCB 122 180P | 710/790Nm |
| 18 | Nut - self locking - M22 (Use once only do not re-torque) | 1 | MFN 722P | |
| 19 | Bracket - engine mounting | 1 | 428952 | |
| 20 | Bolt | 4 | 10MCB 112 75 | 112Nm |
| | Loctite green | A/R | 606631 | |
| 21 | Washer spring | 4 | WMC 12SP | |
| 22 | Engine mounting - 3 stud - (Shore 55) | 2 | 660368 | |
| 23 | Nut - self locking - (Use once only do not re-torque) | 2 | MCN 512P | 75Nm |
| 24 | Spacer collar | 2 | 400210-5 | |
| 25 | Nut - self locking (Use once only do not re-torque) | 4 | MCN 510P | 50Nm |
| 26 | Washer - backing | 4 | 211401 | |
| 27 | Nut full | 1 | MCN 110P | 50Nm |
| 28 | Washer - plain | 1 | WMA 10SP | |
| | Washer - spring | 1 | WMC 10SP | |



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|-----------|-----------------------|-----------------|
| 29 | Bolt - gearbox to bell housing Loctite | 12 A/R | UCB 107 12P 606152 | 46-49Nm |
| 30 | Washer - plain | 12 | WLA 7SP | |
| 31 | Rebound stop - "snubber" | 1 | 657934 | |
| | Washer- plain | 1 | WMA 10SP | |
| | Washer - spring | 1 | WMC 10SP | |
| | Nut full | 1 | MCN 110P | 50Nm |
| 32 | Bracket - rebound stop | 1 | 426597 | |
| ☞ | Spacer - bracket to nut | 2 | 400622-85 | |
| ☞ | Setscrew | 2 | 10MCB 110 50D | 65Nm |
| | Washer -plain | 2 | WMA 10SP | |
| ☞ | Nut - turret - self locking | 2 | 660452 | |
| | Bolt - flywheel to drive plate | 12 | MCB 110 50P | 46-50Nm |
| | Washer - crinkle | 12 | 650938 | |
| | Setscrew - bellhousing plugs | 3 | MCS 116 20P | |
| | Washer - spring | 3 | WMC 16SP | |
| | Plug - drain hole side | 1 | 659170 | |
| | Plug - bottom hole | 1 | 431894 | |
| ☞ | ENGINE OIL FILLER RETAINERS | | | AL1534-1 |
| 33 | Oil filler cap - rework | 1 | 437121 | AR7565 |
| 34 | Chain assembly | 1 | 657903 | |
| 35 | Hook - swivel spring | 1 | 660257 | |
| 36 | Bracket - hook anchor | 1 | 418888 | |
| 37 | Label - "engine oil" | 1 | 419966 | |
| 38 | Plate - engine block stop | 1 | 437120 | AR7567 |
| | Setscrew | 1 | MCS 110 16P | |
| | Washer - spring | 1 | WMC 10SP | |
| | CORROSION ELEMENT | | | |
| | Hose - straight - 730mm lg - upper port to LHS | 1 | 434248-28 | |
| | Hose - straight - 875mm lg - lower port to RHS | 1 | 434248-29 | |
| | Reducer - engine to inhibitor hose | 2 | 651545 | |
| | Coupling pipe - 90 deg | 2 | 659412 | |
| | ENGINE BAY SHIMMING | | | |
| | Shim - engine mounting - 0.8mm | A/R | 430532-1 | |
| | Shim - engine mounting - 1.0mm | A/R | 430532-2 | |
| | Shim - engine mounting - 1.2mm | A/R | 430532-3 | |



EM1511

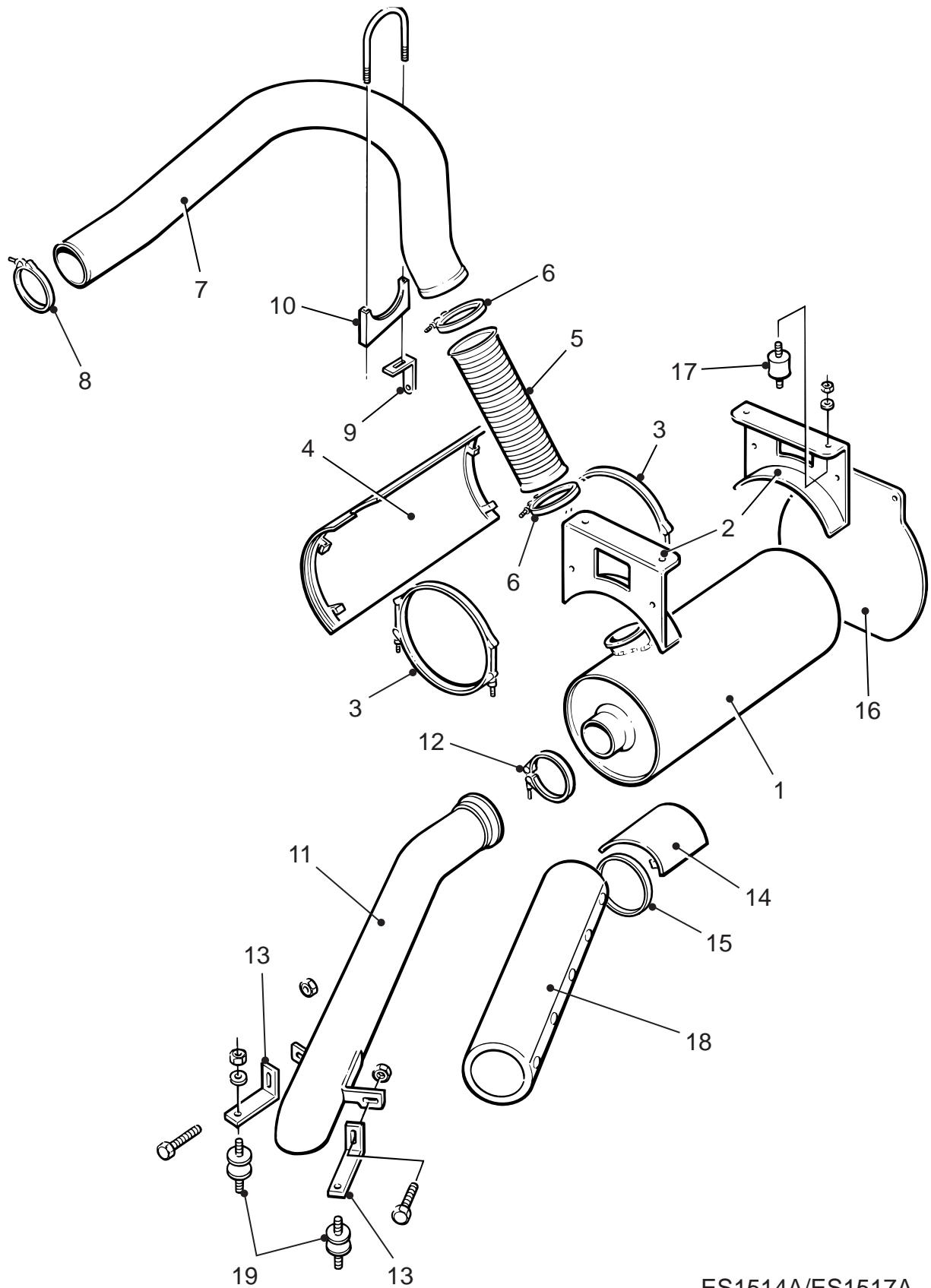
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|--------------|-------------------|
| 1 | Alternator AC172RA - 140A | 1 | 659718 | SEE NOTE 1 |
| 2 | Bolt-alternator pivot | 1 | MCB 116 190P | |
| 3 | Bolt-alternator brace | 1 | MCB 112 55P | |
| 4 | Nut | 2 | MCN 516P | |
| 5 | Bracket - alternator mounting - <i>fabricated</i> | 1 | 429568 | SEE NOTE 2 |
| 6 | Bolt - alternator bracket to engine | 6 | MCS 110 25P | |
| 7 | Washer - spring | 6 | WMC 10SP | |
| 8 | Brace - alternator | 1 | 430319 | |
| 9 | Bolt - brace to alternator | 1 | MCB 116 50P | |
| 10 | Bolt - brace to engine | 1 | XXXXXX | |
| 11 | Washer - plain | 4 | WMA 16SP | |
| 12 | Washer - spring | 1 | WMC 10SP | |
| 13 | Washer - plain | 1 | WMA 10SP | |
| 15a | Belt - alternator - fabricated mounting bracket type | 1 | 657277 | SEE NOTE 2 |
| 15b | Belt - alternator - cast mounting bracket type | 1 | 3944835-101 | SEE NOTE 2 |
| 16 | Alternator duct assembly | 1 | 658800-1 | |
| 17 | Clip - alternator ducting | 1 | 656818-12 | |
| | Pulley | 1 | 658226-1 | |
| | NOTE 1 | | | |
| | <p>Early vehicles are fitted with the AC172R (658123) alternator. If this model is fitted then the brush box will need to be replaced yearly.</p> | | | |
| | Brush box - AC172R | | 657070-5 | |
| ☞ | Fan - cooling | 1 | 658123-1 | AC172R |
| ☞ | Diode plate | 1 | 658123-2 | AC172R |
| ☞ | Regulator | 1 | 658123-3 | AC172R |
| | <p>Later vehicles are fitted with the AC172RA alternator. If this model is fitted, the brush box does not need to be replaced yearly Replacement alternators will be AC172RA</p> | | | |
| | NOTE 2 | | | |
| | <p>Later models are fitted with a cast alternator bracket which also has an idler pulley fitted. This arrangement requires a new alternator drive belt. Later arrangements are covered by Cummins option No : EH9640.</p> | | | |

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---|---|---------|-------------|------------------|
| | CAB AIR CONDITIONING KIT | | | AL1512-2 |
| | Support and pulley assembly | 1 | 657772 | |
| | Drive pulley | 1 | 657738 | |
| | Clamping plate | 1 | 657773 | |
| | Compressor mounting | 1 | 426111 | |
| | Bolt | 3 | MCB 108 40P | |
| | Washer -plain | 4 | WMA 10SP | |
| | Nut | 4 | MCN 710P | |
| | CAB AIR CONDITIONING KIT - Sutrak | | | AL1512-12 |
| | Condenser assembly | 1 | 20902413 | |
| | Compressor assembly | 1 | 20902412 | |
| | Condenser support bracket | 1 | 34113783 | |
| | Setscrew | 4 | MCS 108 30P | |
| | Nut | 4 | MCN 708P | |
| | LIFT PUMP RELOCATION | | | |
| | Note - on later models these parts will be replaced by a Cummins Option number | | | |
| | Lift pump bracket | 1 | 429580 | |
| | Setscrew | 2 | MCS 110 30P | |
| | Washer - plain | 2 | WMA 10SP | |
| | Nut | 2 | MCN 510P | |
| ☞ | Fuel pipe - block to lift pump - Ø8mm | 1 | 433957 | |
| ☞ | Fuel pipe - lift pump to ECU - Ø10mm | 1 | 431409 | |
| | Adaptor - frt RH lift pump port | 1 | 659112-1 | |
| | Elbow | 1 | 659113-1 | |
| | Adaptor - rear LH lift pump port | 1 | 659112-2 | |
| | Elbow | 1 | 659113-2 | |
| | Hose - top block port to LH side | 1 | 242895-24 | |
| | Hose - bottom block port to RH side | 1 | 242895-25 | |
| | Hose - pipe to engine | 1 | 654679-5 | |
| ☞ | EXTENDED BREATHER PIPE | | | SL1616 |
| ☞ | Breather pipe | 1 | 434264 | |
| ☞ | Hose tail | 1 | 659774 | |
| ☞ | Clip | 1 | 656818-4 | |
| | COOLANT TEST POINT - (below turbocharger) | | | OL1524-1 |
| | Connector -valve | 1 | 660159 | |
| | Reducer | 1 | 652542 | |
| | Sealant | 1 | 650189 | |
| ☞ | Plug | 1 | 3008469-101 | |
| ENGINE SHOULD BE COLD AND TANK CAP OFF BEFORE ANY EQUIPMENT IS ATTACHED. | | | | |

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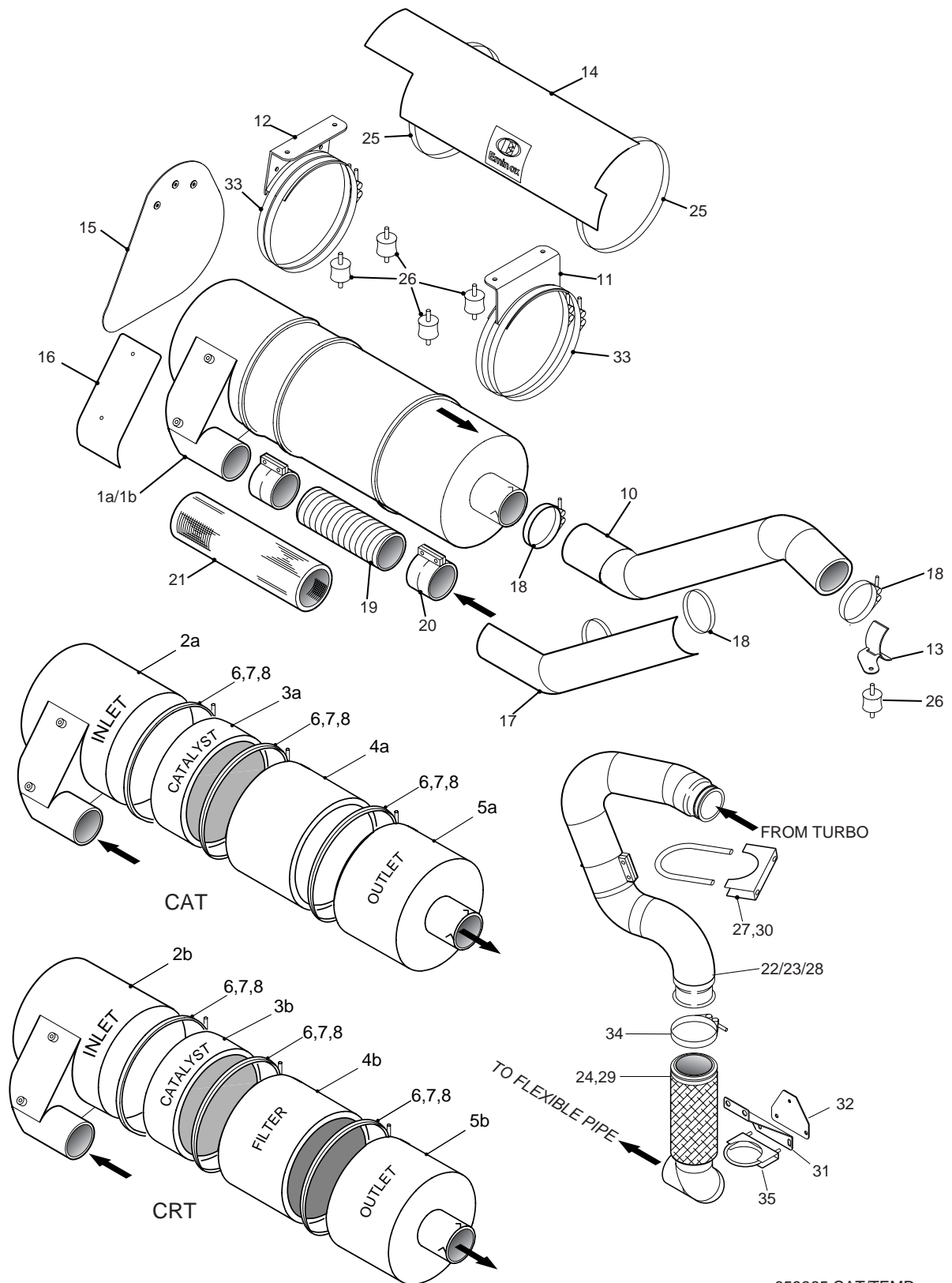
SECTION 6.3

| | | |
|--|------|-----------|
| Exhaust system - Steel | Page | 6.3.2 - 3 |
| Exhaust system - Stainless steel | Page | 6.3.2 - 3 |
| CAT Exhaust system - "insulated jacket type" | Page | 6.3.4 - 5 |
| CRT Exhaust system - "dimple foil type" | Page | 6.3.6 - 7 |
| CAT Exhaust system - "dimple foil type" | Page | 6.3.6 - 7 |



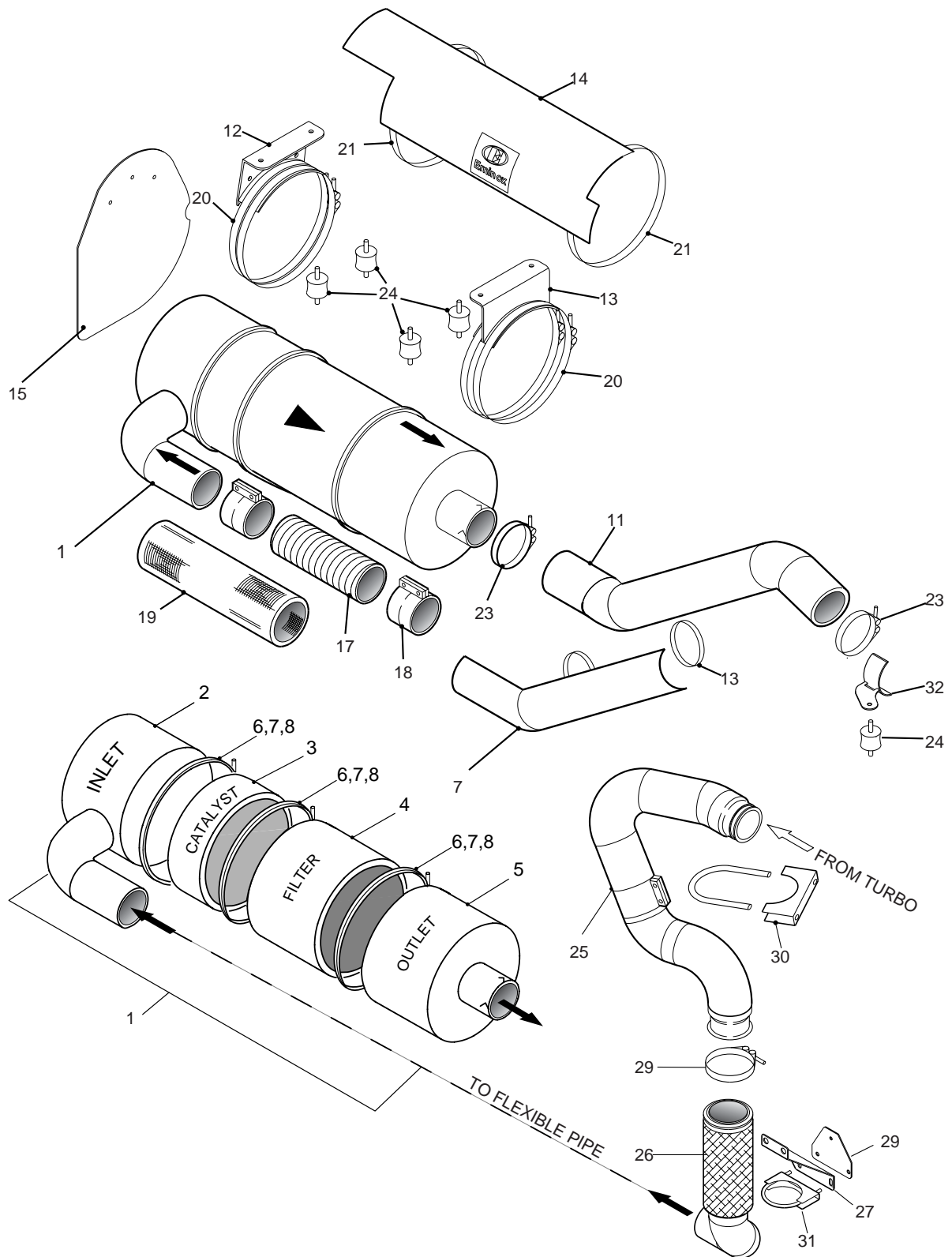
ES1514A/ES1517A

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|-------------|----------------|
| | STEEL SYSTEM | | | ES1514A |
| 1a | Silencer | 1 | 430572 | |
| 2 | Exhaust hanger | 2 | 424342 | |
| 3 | Clip - exhaust silencer | 2 | 656916 | |
| 4 | Heat shield assembly - silencer | 1 | 424360 | |
| 5a | Flexible pipe | 1 | 423676 | |
| 6 | Clamp - flexible pipe | 2 | 427161 | |
| 7a | Exhaust pipe - turbo to silencer | 1 | 429497 | |
| 8 | Clamp vee, turbo to pipe | 1 | 427161 | |
| 9 | Bracket - pipe clamp support | 2 | 424535 | |
| 10 | U clamp | 1 | 657374 | |
| 11a | Tailpipe - Mild Steel | 1 | 430196 | |
| 12 | Clamp - silencer to tailpipe | 1 | 427161 | |
| 13 | Bracket - tailpipe support | 2 | 430194 | See Note 1 |
| | Bolt | 2 | MCS 108 25P | |
| | Nut | 2 | MCN 108P | |
| | Washer - plain | 4 | WMA 8SP | |
| | Washer - spring | 4 | WMC 8SP | |
| 14 | Heat shield - tailpipe | 1 | 424367 | |
| 15 | Clip - heat shield | 4 | 656818-15 | |
| 16 | Heat shield - silencer end | 1 | 424495 | |
| 17 | Rubber mount | 4 | 659138 | |
| 18 | Heat shield jacket - tailpipe | 1 | 430889 | |
| 19 | Rubber mount - tailpipe | 2 | 658890 | |
| | Nut | 4 | MCN 110P | |
| | Washer - plain | 4 | WMA 10SP | |
| | Washer - spring | 4 | WMC 10SP | |
| 20 | Bracket - tailpipe mount | 1 | 430194 | |
| | STAINLESS STEEL SYSTEM | | | ES1517A |
| | All other items as listed above | | | |
| 1b | Silencer | 1 | 659784 | |
| 5b | Flexible pipe | 1 | 425477 | |
| 7b | Exhaust pipe - turbo to silencer | 1 | 434309 | |
| 11b | Tailpipe - Stainless Steel | 1 | 430219 | |
| | Note 1 | | | |
| | The rear levelling valve arrangement For WPO52898 only necessitates a change the tailpipe mountings | | | |
| | Bracket - tailpipe support | 1 | 437127 | |
| | Bracket - bobbin mounting | 1 | 437129 | |



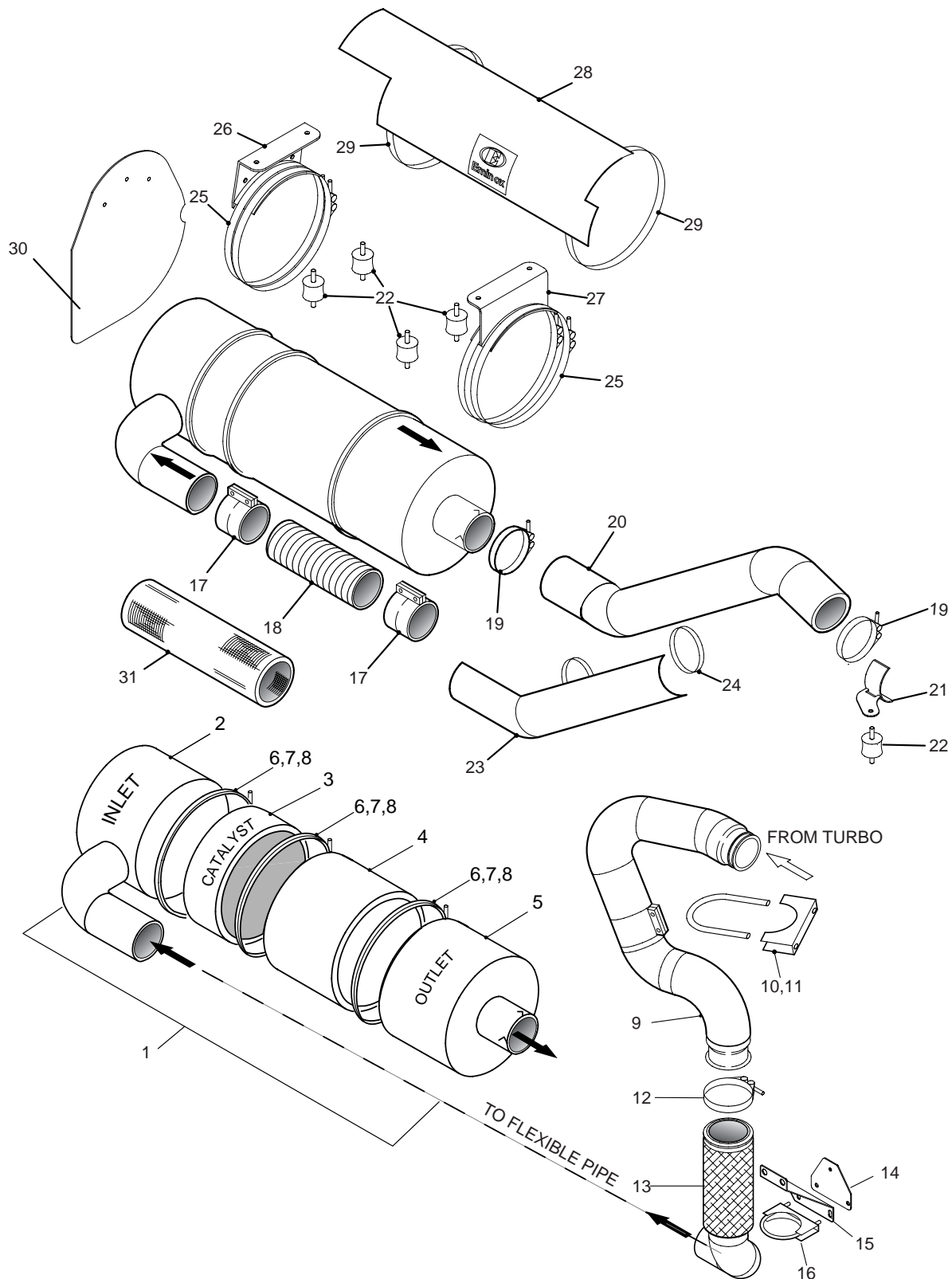
659365 CAT/TEMP

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---|--|---------|-----------|----------------|
| <p>NOTE ES1516B : This system was fitted in the short term until the CRT version was available. Systems will have the CAT silencer changed for a CRT silencer. Hence certain CRT systems will have insulated jackets as opposed to the later "dimple foil" insulated systems</p> | | | | |
| 1a | Silencer - assembly - CAT | 1 | 659365-1 | ES1515A |
| 2a | Inlet section | 1 | 659365-2 | |
| 3a | Catalyst module | 1 | 659365-3 | |
| 4a | Silencer section | 1 | 659365-4 | |
| 5a | Outlet section | 1 | 657870-19 | |
| 6 | Joint - body ring | 1 | 657870-20 | |
| 7 | Vee Clamp - silencer | 3 | 657870-15 | |
| 8 | Gasket - silencer | 1 | 657870-16 | |
| 9a | Plug - diagnostic connection | 1 | 657870-17 | |
| 9b | Washer - diagnostic plug | 1 | 657870-18 | |
| 10 | Tailpipe | 1 | 659365-8 | |
| 11 | Mounting cradle - LH | 1 | 657870-3 | |
| 12 | Mounting cradle - RH | 1 | 657870-4 | |
| 13 | Tailpipe cradle | 1 | 659365-5 | |
| 14 | Silencer heatshield | 1 | 657870-6 | |
| 15 | Grease shield | 1 | 657870-7 | |
| 16 | Inlet grease shield | 1 | 657870-8 | |
| 17 | Tail pipe heatshield | 1 | 659365-6 | |
| 18 | Clamp - 'Hi torque' - 120mm | 3 | 659365-7 | |
| 19 | Flexible pipe | 1 | 657870-11 | |
| 20 | Clamp | 2 | 408508-14 | |
| 21 | Insulation jacket - flexible pipe | 1 | 657870-28 | |
| 22 | Insulation jacket - upper - interpipe | 1 | 657872-2 | |
| 23 | Insulation jacket - middle - interpipe clamp | 1 | 657872-3 | |
| 24 | Insulation jacket - lower - front pipe | 1 | 659368-3 | |
| 25 | Bandclamp - silencer | 1 | 657870-14 | |
| 26 | Rubber mount | 4 | 659138 | |
| 27 | U bolt clamp - front pipe | 1 | 657871-8 | |
| 28 | Interpipe - lower - C225/260 engine | 1 | 659384-1 | |
| 29 | Front pipe - upper | 1 | 657871-2 | |
| 30 | Bracket - downpipe | 1 | 424535 | |
| 31 | Support bracket - inter pipe | 1 | 657871-4 | |
| 32 | Relocation bracket | 1 | 657871-5 | |
| 33 | Band clamp | 4 | 657870-13 | |
| 34 | 'V' Clamp | 1 | 654852-5 | |
| 35 | U bolt clamp - inter pipe | 1 | 409988-13 | |
| | Fastener kit | 1 | 657871-9 | |
| CAT TO CRT CONVERSION PARTS | | | | |
| 1b | Silencer - assembly - CRT | 1 | 659365-10 | ES1516B |
| 2b | Inlet section - CRT | 1 | 659365-2 | |
| 3b | Catalyst module - CRT | 1 | 659365-9 | |
| 4b | Filter module - CRT | 1 | 657870-21 | |
| 5b | Outlet section - | 1 | 657870-19 | |



659976 CRT

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|-----------------|-----------|
| 1 | Silencer - assembly - CRT - C225/260-30 engine | 1 | 659747-1 | ES1516C&D |
| 2 | Inlet section - CRT | 1 | 659746-2 | |
| ☞ 3 | Catalyst module - CRT | 1 | 659925-3 | |
| ☞ 4 | Filter module - CRT | 1 | 659747-3 | |
| 5 | Outlet section - CRT | 1 | 659746-5 | |
| 6 | Joint - body ring | 3 | 657870-20 | |
| 7 | Vee Clamp - silencer | 3 | 657870-15 | |
| 8 | Gasket - silencer | 3 | 657870-16 | |
| 9 | Plug - diagnostic connection | 1 | 657870-17 | |
| 10 | Washer - diagnostic plug | 1 | 657870-18 | |
| 11 | Tailpipe | 1 | 659746-9 | |
| 12a | Mounting cradle - LH | 1 | 657870-3 | |
| 13a | Mounting cradle - RH | 1 | 657870-4 | |
| 14 | Silencer heatshield | 1 | 659746-10 | |
| 15 | Grease shield | 1 | 659746-11 | |
| 16 | Tail pipe heatshield | 1 | 659365-6 | |
| 17 | Flexi pipe | 1 | 659746-12 | |
| 18 | Clamp - flexi pipe | 2 | 408508-14 | |
| 19 | Insulation jacket | 1 | 657870-12 | |
| 20 | Band clamp - silencer | 4 | 657870-13 | |
| 21 | Clamp - "Hi torque" - 320 mm | 1 | 657870-14 | |
| 22 | Clamp - "Hi torque" - 140 mm | 4 | 659365-7 | |
| 23 | Clamp - silencer outlet | 2 | 657019-7 | |
| ☞ 24 | Rubber mount | 4 | 409998-15 | |
| 25a | Front pipe - insulated - "dimple foil" - upper | 1 | 659746-7 | |
| | Bracket - downpipe | 2 | 424535 | |
| ☞ 26a | Interpipe - insulated - "dimple foil" - lower | 1 | 659746-8 | |
| 27 | Support bracket - inter pipe | 1 | 657871-4 | |
| 28 | Relocation bracket | 1 | 657871-5 | |
| 29 | 'V' Clamp - downpipe | 1 | 654852-5 | |
| 30 | U bolt clamp - front pipe | 1 | 657871-8 | |
| 31 | U bolt clamp - inter pipe | 1 | 409988-13 | |
| | Fastener kit | 1 | 659746-13 | |
| | RAISED SILENCER - MY03 | | | |
| | Used on and after Chassis Nos : 2400, 2544 onwards | | | ES1516E |
| 12b | Mounting cradle - LH | 1 | 659961-4 | BDS037G |
| 13b | Mounting cradle - RH | 1 | 659961-5 | |
| ☞ 25b | Front pipe - insulated - "dimple foil" | 1 | 659961-2 | |
| ☞ 26b | Interpipe - insulated - "dimple foil" | 1 | 659961-3 | |
| | Fastener kit | 1 | 659961-6 | |
| | Raised ground clearance kit (items 12b, 13b & 26b) | 1 | 659961-7 | MDS037L |



659745 CAT

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|-----------|---------|
| 1a | Silencer - assembly - CAT - C225/260-30 engine | 1 | 659745-1 | |
| 2 | Inlet section | 1 | 659746-2 | |
| 3 | Catalyst section | 1 | 659746-3 | |
| ☞ 4 | Silencer section | 1 | 659745-2 | |
| 5 | Outlet section | 1 | 659746-5 | |
| 6 | Joint - body ring | 1 | 657870-20 | |
| 7 | Vee Clamp - silencer | 3 | 657870-15 | |
| 8 | Gasket - silencer | 1 | 657870-16 | |
| | Plug - diagnostic connection | 1 | 657870-17 | |
| | Washer - diagnostic plug | 1 | 657870-18 | |
| 9 | Front pipe - upper - insulated - "dimple foil" | 1 | 659746-7 | |
| 10 | U bolt clamp - front pipe | 1 | 657871-8 | |
| 11 | Bracket - downpipe | 2 | 424535 | |
| 12 | 'V' Clamp - downpipe | 1 | 654852-5 | |
| 13 | Inter pipe - lower - insulated - "dimple foil" | 1 | 659746-8 | |
| 14 | Relocation bracket | 1 | 657871-5 | |
| 15 | Support bracket - inter pipe | 1 | 657871-4 | |
| 16 | U bolt clamp - inter pipe | 1 | 409988-13 | |
| 17 | Clamp - flexi pipe | 2 | 408508-14 | |
| 18 | Flexi pipe | 1 | 659746-12 | |
| 19 | Clamp - silencer outlet | 2 | 657019-7 | |
| 20 | Tailpipe | 1 | 659746-9 | |
| 21 | Tailpipe cradle | 1 | 659365-5 | |
| 22 | Rubber mount | 4 | 659138 | |
| 23 | Tail pipe heatshield | 1 | 659365-6 | |
| 24 | Clamp - 'Hi torque' - 120mm | 4 | 659365-7 | |
| 25 | Band clamp - silencer | 4 | 657870-13 | |
| 26 | Mounting cradle - LH | 1 | 657870-3 | |
| 27 | Mounting cradle - RH | 1 | 657870-4 | |
| 28 | Silencer heatshield | 1 | 659746-10 | |
| 29 | Bandclamp - silencer | 1 | 657870-14 | |
| 30 | Grease shield | 1 | 659746-11 | |
| 31 | Insulation jacket | 1 | 657870-12 | |
| | Fastener kit | 1 | 659746-13 | |
| | RAISED SILENCER - MY03 | | | |
| | Used on and after Chassis Nos : 2400, 2544 onwards | | | ES1515D |
| ☞ 9b | Front pipe - upper - insulated - "dimple foil" | 1 | 659961-2 | |
| ☞ 13b | Inter pipe - lower - insulated - "dimple foil" | 1 | 659961-3 | |
| ☞ 26b | Mounting cradle - LH | 1 | 659961-4 | |
| ☞ 27b | Mounting cradle - RH | 1 | 659961-5 | |
| ☞ | Fastener kit | 1 | 659961-6 | |
| ☞ | Raised ground clearance kit (items 2b, 20b & 21b) | 1 | 659961-7 | |

DENNIS

SECTION 7.1

| | | |
|---------------------|-----------|-----------|
| Bolts and screws |Page | 7.1.3 - 4 |
| Nuts |Page | 7.1.4 |
| Washers |Page | 7.1.5 |
| Split pins |Page | 7.1.6 |
| Self tapping screws |Page | 7.1.6 - 7 |
| 'P' Clips |Page | 7.1.8 |
| Hose clips |Page | 7.1.8 |
| Sleeving |Page | 7.1.9 |
| Plastic ties |Page | 7.1.9 |

AMENDED:

1 All attaching hardware (such as bolts, screws, nuts, washers etc.) are given a part number in a standard code which exactly identifies each item.

BOLTS AND SCREWS



2 The individual letters and numbers of the part number indicate the following:

| GRADE (Para 3) | THREAD (Para 4) | TYPE (Para 5) | TOOL (Para 6) | HEAD (Para 7) | DIAMETER (Para 8) | LENGTH (Para 9) | FINISH (Para 10) |
|-------------------|--------------------|------------------|------------------|------------------|----------------------|--------------------|---------------------|
| 10 | MC | S | 3 | 3 | 10 | 80 | P |

3 Grade of Material

| | | |
|--------------|---|----------------------------|
| Blank | = | 8.8 metric or "S" imperial |
| 10 | = | 10.9 metric |
| 12 | = | 12.9 metric |
| R | = | R grade nut (imperial) |
| T | = | T grade nut (imperial) |
| V | = | V grade bolt (imperial) |
| X | = | X grade (imperial) |

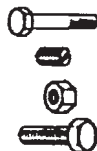
Note: "R" grade nut is used with "V" grade bolt
 "T" grade nut is used with "X" grade bolt

4 Thread

| | | |
|-----------|---|----------------|
| BA | = | BA |
| BF | = | B.S.F. |
| MC | = | Metric Coarse |
| MF | = | Metric Fine |
| UC | = | Unified Coarse |
| UF | = | Unified Fine |
| BC | = | B.S.W. |

5 Type

| | | |
|----------|---|-----------|
| B | = | Bolt |
| G | = | Grubscrew |
| N | = | Nut |
| S | = | Screw |



6 Tool

| | | |
|--------------|---|---------------------------------------|
| Blank | = | Spanner |
| 1 | = | Screw driver (conventional) |
| 2 | = | Pozidrive or Philips type screwdriver |
| 3 | = | Alan key (hexagonal socket head) |
| 4 | = | Coach type head |

AMENDED:

7 Head

Bolts and Screws

| | | |
|----|---|----------------------------|
| 1 | = | Hexagonal |
| 2 | = | Square |
| 3 | = | Flat csk |
| 4 | = | Raised csk |
| 5 | = | Round |
| 6 | = | Cheese or cap |
| 7 | = | Raised csk for instruments |
| 8 | = | Mushroom or cup |
| 9 | = | Pan |
| 10 | = | Durlock |

Grubscrews

| | | |
|---|---|-----------|
| 1 | = | Plain |
| 2 | = | Cup |
| 3 | = | W - point |
| 4 | = | Cone |
| 5 | = | Half dog |
| 6 | = | Full dog |

8 Diameter (two digits)

| | | |
|---------------|---|-----------------------------------|
| BA sizes | = | gauge number |
| BSF, UNF, BSW | = | diameter in sixteenths of an inch |
| Metric | = | diameter in millimetres |

9 Length (two or three digits)

| | | |
|-------------------|---|------------------------------|
| BA, BSF, UNF, BSW | = | length in eighths of an inch |
| Metric | = | length in millimetres |

10 Finish

| | | |
|---|---|---|
| C | = | Chrome plate |
| P | = | Cadmium or zinc plate, sheradized or passivated |
| S | = | Stainless |
| B | = | Black passivated |

NUTS

11 The individual letters and numbers of the part number indicate as follows:

| THREAD (Para 4) | NUT | TYPE (Para 12) | SIZE (Para 13) | FINISH (Para 10) |
|--------------------|----------|-------------------|-------------------|---------------------|
| BC | N | 5 | 20 | P |



12 Type

| | | |
|---|---|------------------------|
| 1 | = | Full Plain |
| 2 | = | Half plain (locknut) |
| 3 | = | Castle |
| 4 | = | Slotted |
| 5 | = | Full - self locking |
| 6 | = | Thin - self locking |
| 7 | = | Full Nyloc or Simmonds |
| 8 | = | Thin Nyloc or Simmonds |
| 9 | = | Square |

- **NOTE** :When self locking nylon type nuts are removed, they should be discarded and new items used. **THEY SHOULD NEVER BE RE-USED.**

AMENDED:**13 Size (two digits)**

Thread diameter
 Metric - millimetres
 BSF, UNF, BSW - sixteenths of an inch

WASHERS

14 The individual letters and numbers of the part number indicate as follows:

| MEASURING SYSTEM (Para 15) | TYPE (Para 16) | SIZE (Para 17) | MATERIAL (Para 18) | FINISH (Para 19) |
|-------------------------------|-------------------|-------------------|-----------------------|---------------------|
| WM | C | 10 | 5 | P |

15 Measuring System

WB = BA sizes
WG = Woodscrew gauge sizes
WL = Inch size
WM = Metric sizes

16 Type

A = Plain, flat
B = Spherical or Belleville
C = Single coil spring
D = Double coil spring
E = External star
F = Countersunk internal star
G = Internal star
H = Internal and external star
J = Cup

17 Size

One or two figures give the internal diameter in :-

Screw gauge size
 BA number
 Sixteenths of an inch
 Millimetres

18 Material

A = Aluminium
B = Brass
C = Copper
S = Steel

AMENDED:**19 Finish**

| | | |
|----------|---|---|
| C | = | Chrome plate |
| N | = | Nickel plate |
| O | = | Natural |
| P | = | Cadmium or zinc plate, sheradized or passivated |
| B | = | Brassed |

20 SPLIT PINS

The individual letters and numbers of the part number indicate the following :-

| SPLIT PIN | DIAMETER (Para 21) | LENGTH (Para 22) | MATERIAL (Para 23) |
|-----------|-----------------------|---------------------|-----------------------|
| SP | 6 | 12 | ST |

21 Diameter

One or two figures indicate diameter in sixty - fourths of an inch

22 Length

One or two figures indicate length in sixteenths of an inch

23 Material

| | | |
|-----------|---|------------|
| BR | = | Brass |
| ST | = | Mild steel |

24 SELF TAPPING SCREWS

The individual letters and numbers of the part number indicate the following:-

| SELF TAP | TOOL (Para 25) | HEAD (Para 26) | SCREW Gauge No. (Para 27) | LENGTH (Para 28) | Finish (Para 19) |
|-----------|-------------------|-------------------|---------------------------------|---------------------|---------------------|
| ST | 1 | 3 | 08 | 5 | P |

25 Tool

| | | |
|--------------|---|---------------------------------------|
| Blank | = | Spanner |
| 1 | = | Screw driver (conventional) |
| 2 | = | Pozidrive or Philips type screwdriver |
| 3 | = | Allen key (hexagonal socket head) |
| 4 | = | NA |
| 5 | = | Plain, i.e. hammer drive |

AMENDED:

26 Head

| | | |
|----------|---|--------------------------------|
| 1 | = | Hexagonal |
| 2 | = | Square |
| 3 | = | Flat C'sk |
| 4 | = | Raised cheese head (fillister) |
| 5 | = | Round |
| 6 | = | Cheese or cup |
| 7 | = | Raised C'sk. (instrument) |
| 8 | = | Mushroom or cup |
| 9 | = | Pan |

27 Size

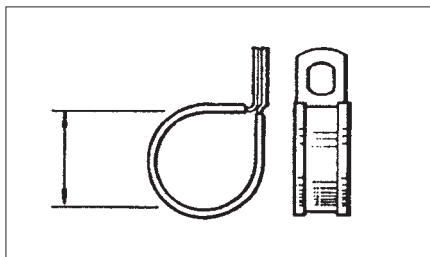
One or two figures give the diameter in screw gauge number.

28. Length

One or two figures give the length in eighths of an inch

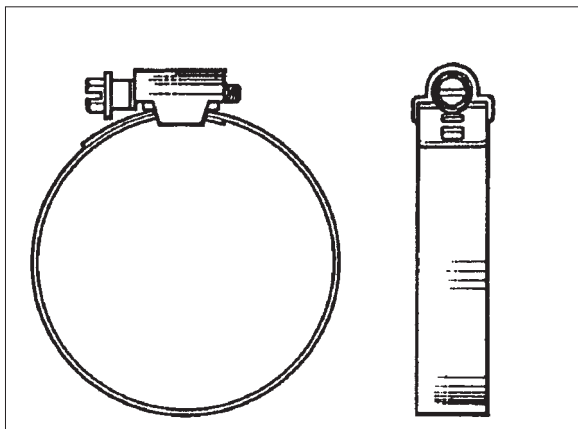
AMENDED:

P' CLIPS



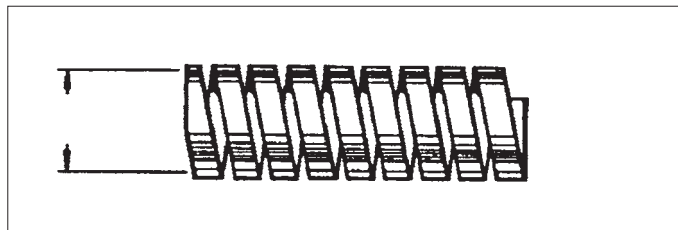
| Inside diameter (mm) | Part No. |
|----------------------|-----------|
| 4 | 611673-1 |
| 5 | 611673-2 |
| 6 | 611673-3 |
| 7 | 611673-4 |
| 8 | 611673-5 |
| 9 | 611673-6 |
| 10 | 611673-7 |
| 11 | 611673-8 |
| 12 | 611673-9 |
| 13 | 610029-1 |
| 14 | 610029-2 |
| 17 | 610029-3 |
| 19 | 610029-4 |
| 21 | 610029-5 |
| 23 | 610029-6 |
| 24 | 610029-7 |
| 27 | 610029-8 |
| 31 | 610029-9 |
| 38 | 610029-10 |
| 39 | 610029-11 |
| 45 | 610029-12 |
| 51 | 610029-13 |
| 57 | 610029-14 |
| 70 | 610029-15 |
| 73 | 610029-16 |
| 90 | 610029-17 |

HOSE CLIPS

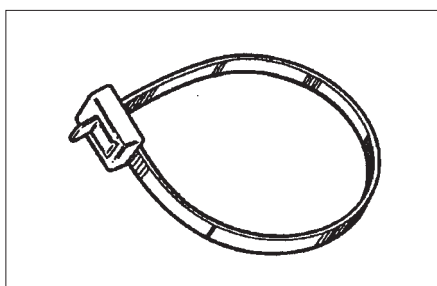


| Diameter Min (mm) | Diameter Max (mm) | Part No. |
|-------------------|-------------------|-----------|
| 8 | 16 | 656818-1 |
| 12 | 20 | 656818-2 |
| 12 | 22 | 656818-3 |
| 16 | 25 | 656818-4 |
| 20 | 32 | 656818-5 |
| 23 | 35 | 656818-6 |
| 25 | 40 | 656818-7 |
| 30 | 45 | 656818-8 |
| 32 | 50 | 656818-9 |
| 40 | 60 | 656818-10 |
| 50 | 70 | 656818-11 |
| 60 | 80 | 656818-12 |
| 70 | 90 | 656818-13 |
| 80 | 100 | 656818-14 |
| 90 | 110 | 656818-15 |
| 100 | 120 | 656818-16 |
| 120 | 140 | 656818-17 |
| 140 | 160 | 656818-18 |

AMENDED:

PROTECTIVE SLEEVING

| Inside diameter | | |
|-----------------|----------------|----------|
| Closed (mm) | Max: open (mm) | Part No. |
| 6.7 | 25.4 | 610561/1 |
| 9.3 | 44.5 | 610561/2 |
| 13.2 | 63.5 | 610561/3 |
| 19.9 | 127.0 | 610561/4 |
| 26.1 | 178.0 | 610561/5 |
| 14.0 | 75.0 | 610561/6 |

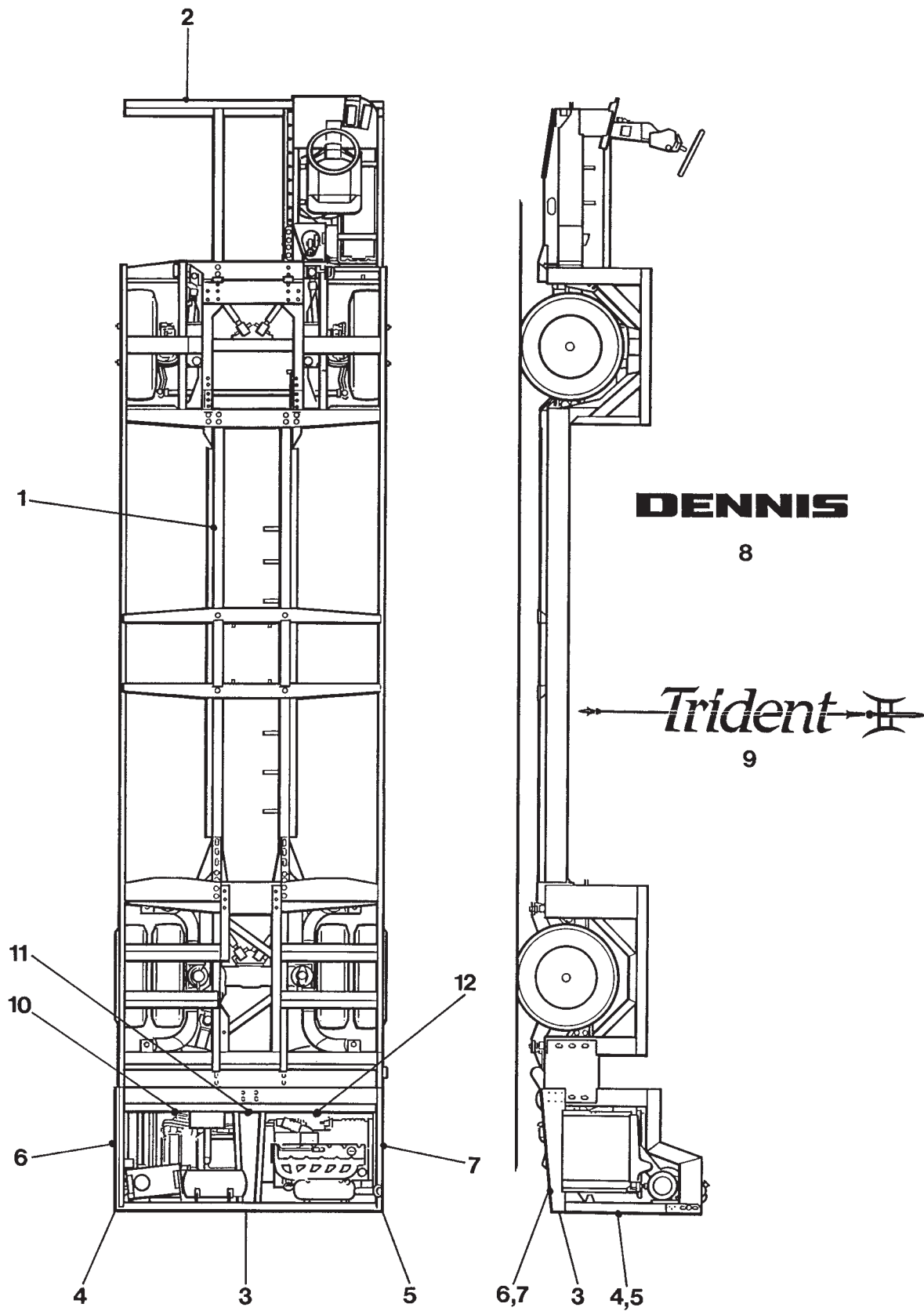
CABLE TIES

| Length (mm) | |
|------------------|----------|
| Length (mm) | Part No. |
| 115mm | 607008 |
| 130 - 133mm wide | 653608 |
| 190 - extra wide | 610808 |
| 266mm | 607007 |

DENNIS

SECTION 7.2

Frame assemblyPage 7.1.2 - 4



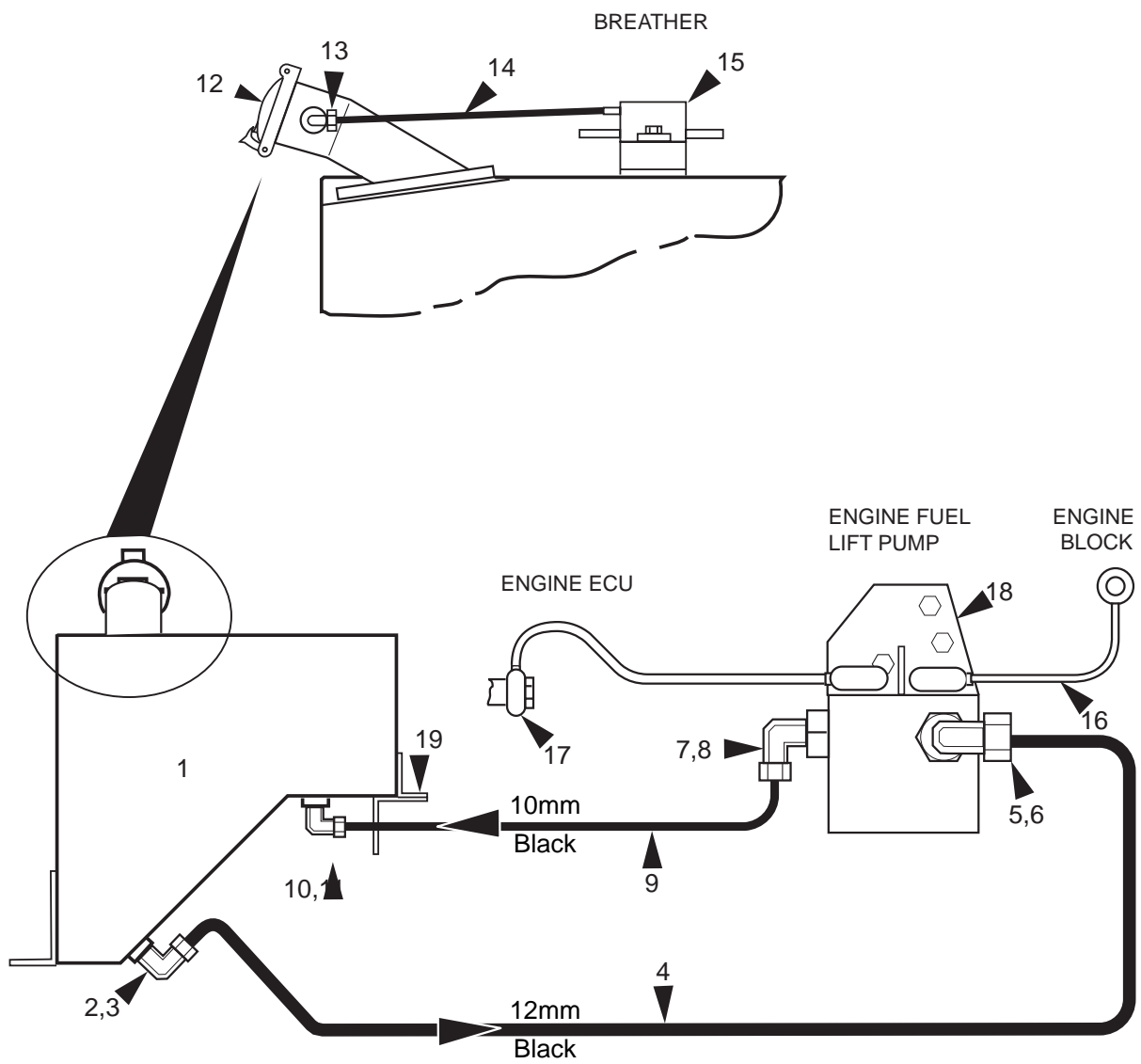
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|-------------|---------|
| 1a | Frame assembly - 9.9m chassis | 1 | 428240 | F1510C |
| 1b | Frame assembly - 9.9m chassis - centre ramp | 1 | 432548 | F1510F |
| 1c | Frame assembly - 10.45m chassis | 1 | 428471 | F1512D |
| 1d | Frame assembly - 10.60m chassis | 1 | 433390 | F1512E |
| 1e | Frame assembly - 5.8m W/B | 1 | 435089 | F1512U |
| 1f | Frame assembly - 11.40m chassis | 1 | 429927 | F1514B |
| 1g | Frame assembly - 10.45m chassis | 1 | 433387 | F1514K |
| 1h | Frame assembly - 5.25 m W/B - forward centre door | 1 | 433639 | F1510U |
| 1j | Frame assembly - 5.25 m W/B - wide gangway | 1 | 433384 | F1510G |
| 1k | Frame assembly - 5.25 m W/B - wide gangway | 1 | 435254 | F1515A |
| 1l | Frame assembly - 5.25 m W/B | 1 | 432842 | F1515P |
| 1m | Frame assembly - 5.8 m W/B | 1 | 435257 | F1516A |
| 1n | Frame assembly - 5.8 m W/B - BS 09 | 1 | 437328 | F1516E |
| 1o | Frame assembly - 5.8 m W/B - ST11 | 1 | 435272 | F1516G |
| 1p | Frame assembly - 5.25 m W/B - BS19 | 1 | 436343 | F1516P |
| 1q | Frame assembly - 5.8 m W/B - BS21 | 1 | 437110 | F1516Q |
| 1r | Frame assembly - 5.8 m W/B - BS22 | 1 | 436343 | F1516R |
| 1s | Frame assembly - 5.8 m W/B - BS23 | 1 | 437833 | F1516S |
| 1t | Frame assembly - 5.95 m W/B | 1 | 435260 | F1517A |
| 1u | Frame assembly - 6.635 m W/B | 1 | 435261 | F1518A |
| 1v | Frame assembly - 5.25 m W/B | 1 | 435261 | F1519A |
| 1w | Frame assembly - 5.25 m W/B | 1 | 436892 | F1519B |
| 1x | Frame assembly - 5.8 m W/B | 1 | 436894 | F1520A |
| 1y | Frame assembly - 5.8 m W/B - BS19 | 1 | 436885 | F1520P |
| 1z | Frame assembly - 6.63 m W/B | 1 | 436896 | F1522A |
| ☞ 1aa | Frame assembly - 6.63 m W/B - guided bus | 1 | 438220 | F1522B |
| 2 | Front crossbeam - "Z" | 1 | 431824 | |
| 3 | Rear lower channel | 1 | 422571 | |
| | Screw | 6 | MCS 110 25P | |
| ☞ | Nut | 6 | MCN 510P | |
| 4 | Rear upright angle - LH | 1 | 423579 | |
| 5 | Rear upright angle - RH | 1 | 424607 | |
| | Screw | 6 | MCS 110 45P | |
| ☞ | Nut | 6 | MCN 510P | |
| 6 | Skirt angle- LH | 1 | 422573 | |
| | Screw | 3 | MCS 110 45P | |
| ☞ | Nut | 3 | MCN 510 | |
| | Tapping plate | 1 | 426497 | |
| | Spring washer | 3 | WMC 105P | |
| 7 | Skirt angle - RH | 1 | 426344 | |
| | Screw | 6 | MCS 110 45P | |
| ☞ | Nut | 6 | MCN 510P | |
| | Tapping plate | 1 | 426497 | |
| | Spring washer | 3 | WMC 105P | |

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|-----------------------|---------|---------|----------|
| 8 | Nameplate - "Dennis" | 2 | 425465 | |
| 9 | Nameplate - "Trident" | 2 | 421951 | |
| 10 | Noise pad- LH | 1 | 424293 | NS 1510A |
| 11 | Noise pad - centre | 1 | 424294 | |
| 12 | Noise pad - RH | 1 | 424300 | |
| | Clip - noise pad | 16 | 657085 | |

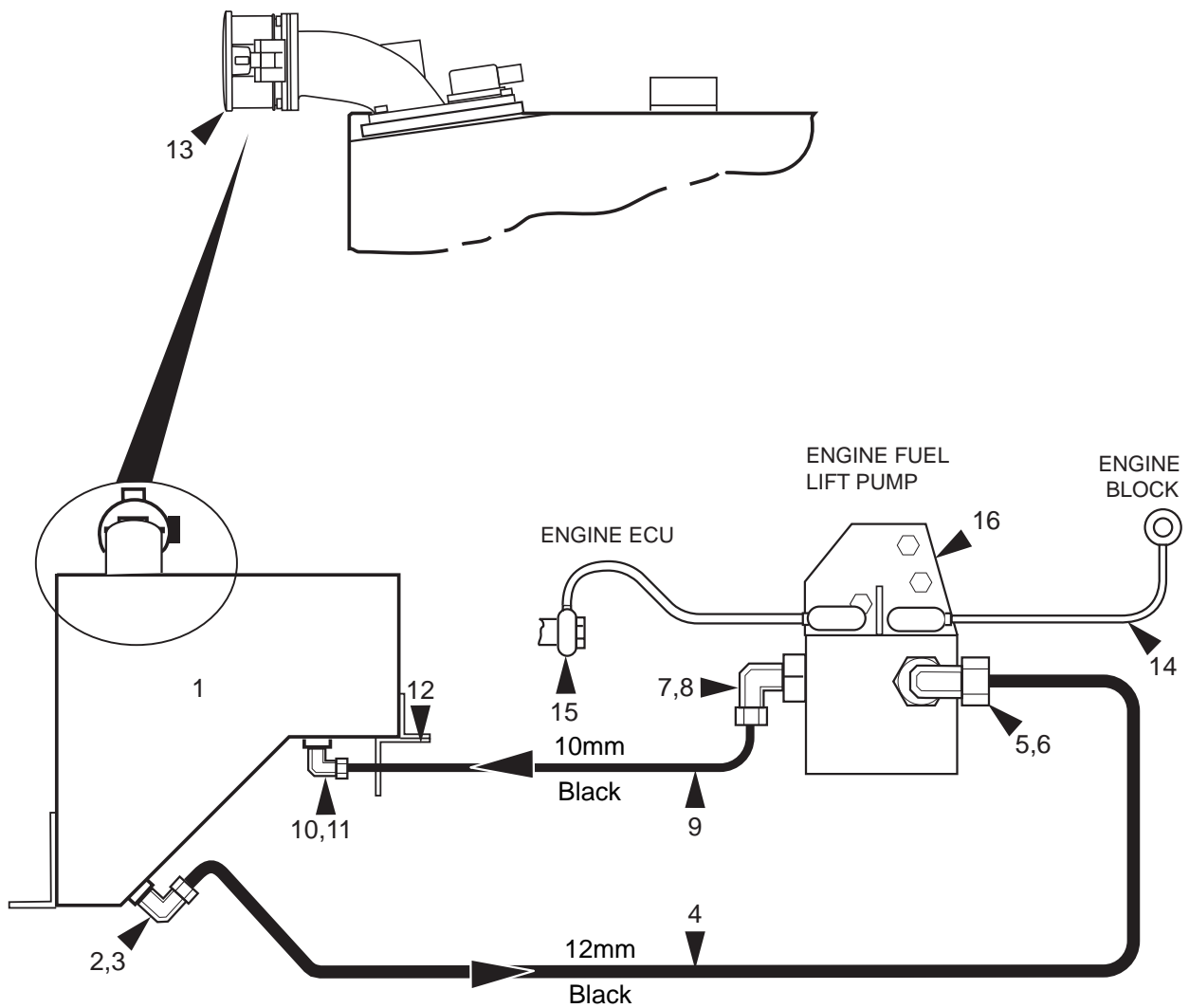
DENNIS

SECTION 7.3

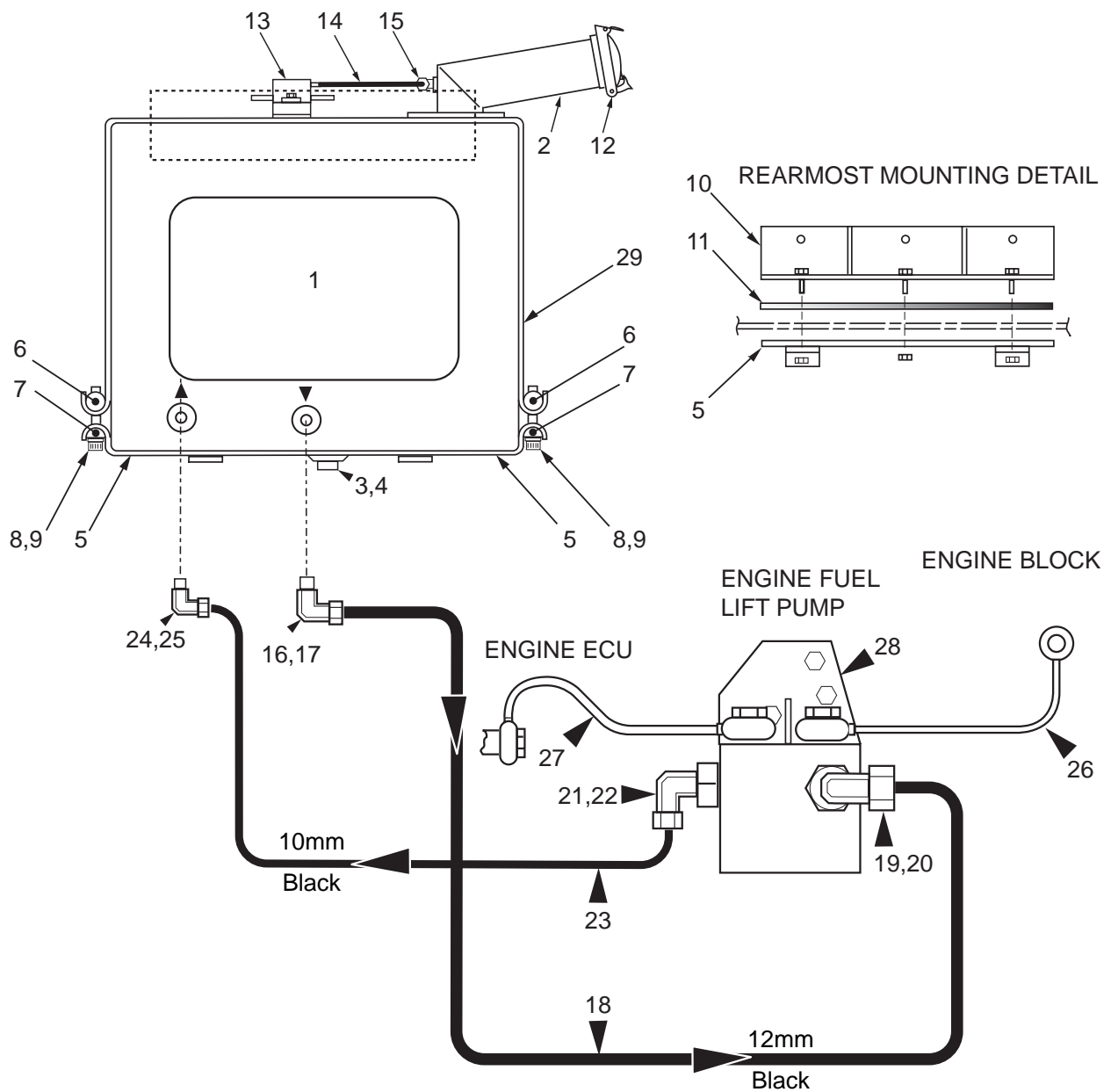
| | |
|---|-------------|
| Fuel system - front tank - steel - 275 litresPage | 7.3.2 - 3 |
| Fuel system - front tank - stainless steel - 275 litresPage | 7.3.2 - 3 |
| Fuel system - front tank - steel - "identic" - 275 litresPage | 7.3.2 - 3 |
| Fuel system - front tank - posilock - 275 litresPage | 7.3.4 - 5 |
| Fuel system - rear mounted - 275 litresPage | 7.3.6 - 7 |
| Fuel system - front tank - steel - 325 litresPage | 7.3.8 - 9 |
| Fuel shut off valve - SL1592Page | 7.3.10 - 11 |
| Fuel gauge - OL1521-1 & OL1512 -2Page | 7.3.10 - 11 |
| Fuel filter mounting - rear engine bayPage | 7.3.10 - 11 |
| Fuel pump pipework On & after Chassis No 1800Page | 7.3.12 - 13 |
| Fuel shut off solenoid valvesPage | 7.3.14 - 15 |



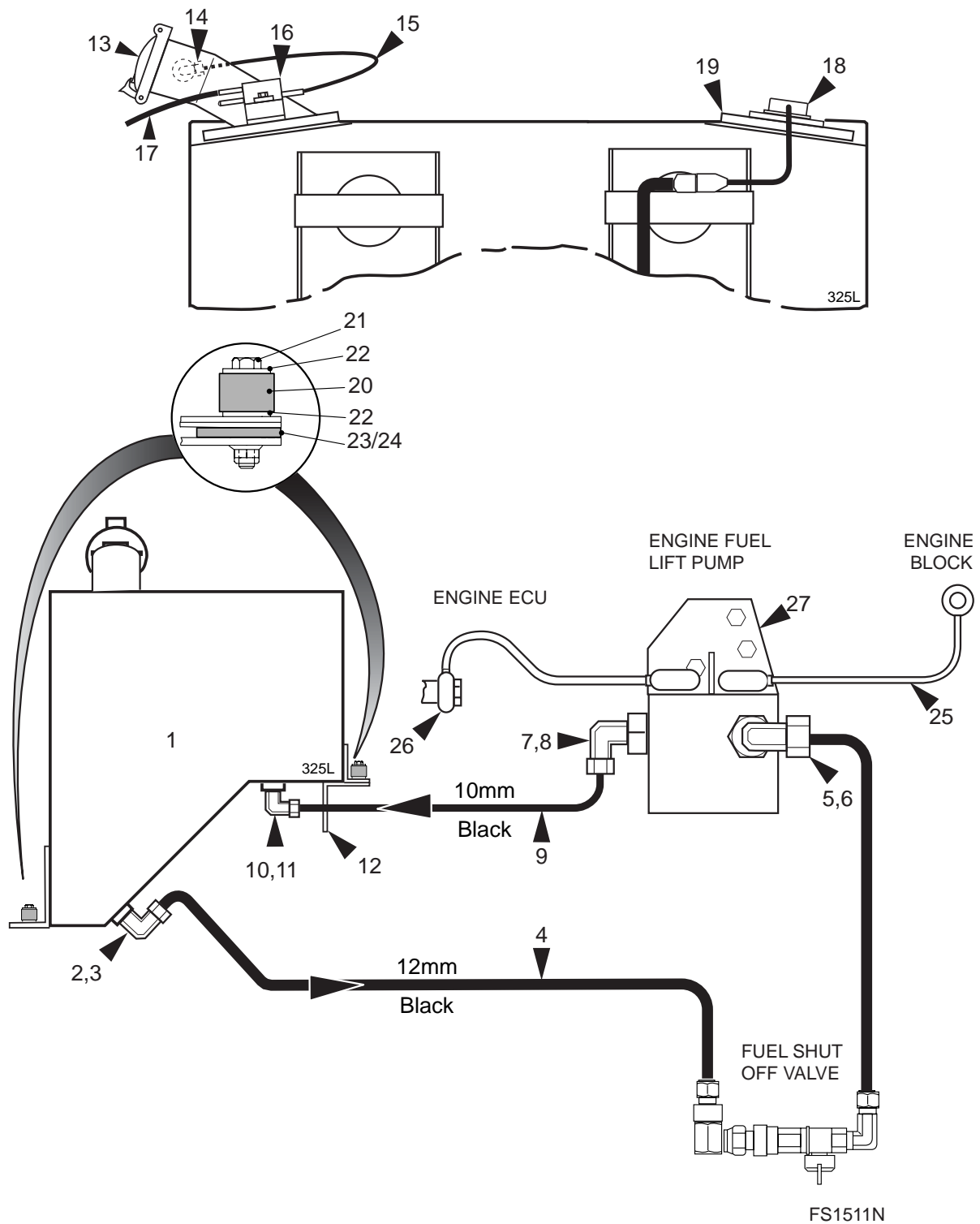
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|---------------|-----------------|
| 1a | Fuel tank assembly - steel - 275 litres | 1 | 434911 | FS1511H,R,Y(B) |
| | Filler neck | 1 | 434932 | & FS1513A |
| | Fuel tank - steel | 1 | 434914 | |
| 1b | Fuel tank assembly - stainless steel - 275 litres | 1 | 434913 | FS1511K,T(F) |
| | Filler neck | 1 | 434934 | &F1513C |
| | Fuel tank - stainless steel | 1 | 434915 | |
| 1c | Fuel tank assembly - steel - "identic" - 275 litres | 1 | 434958 | FS1511M,V(G) |
| | Filler neck - identic | 1 | 434223 | &F1513E |
| | Fuel tank - identic | 1 | 434959 | |
| | Kit - "identic" | 1 | 658763 | |
| | Gasket - filler neck | 1 | 657829 | |
| | Setscrew | 6 | MCS 106 20P | |
| | Mounting strip - front | 1 | 427827 | tank to brkt |
| | Mounting strip - rear | 1 | 427829 | tank to plinth |
| 2 | Elbow - <i>supply</i> - Ø12 | 1 | 656181 | |
| 3 | Sleeve - 12mm | 1 | 655832-3 | |
| 4 | Tube - Ø 12-black - supply | 11m | 654993 | |
| 5 | Elbow - <i>supply</i> - Ø 12 | 1 | 659113-1 | |
| 6 | Adaptor - RH front lift pump port | 1 | 659112-1 | |
| 7 | Elbow - <i>return</i> - Ø 10 | 1 | 659113-2 | |
| 8 | Adaptor - LH rear lift pump port | 1 | 659112-2 | |
| 9 | Tube - Ø 10-black - return line | 15m | 654992 | |
| 10 | Elbow - <i>return</i> - Ø 10 | 1 | 655842 | |
| 11 | Sleeve - 10mm | 1 | 655832-1 | |
| 12 | Filler cap - c/w washers | 1 | 658137 | |
| 13 | Elbow | 1 | 655164 | |
| 14 | Tube - Ø 8 - black - breather | 1 | 651548 | |
| 15 | Breather | 1 | 417362 | |
| 16 | Fuel pipe - block to lift pump - Ø8mm | 1 | 433957 | |
| | Stud - return pipe | 1 | 434274 | |
| | Clip | 1 | 657677-1 | |
| | Nut | 1 | 1 | MCN 508P |
| 17 | Fuel pipe - lift pump to ECU - Ø10mm | 1 | 431409 | |
| 18 | Lift pump bracket | 1 | 429580 | |
| | Setscrew | 2 | MCS 110 30P | |
| | Washer - plain | 2 | WMA 10SP | |
| | Nut | 2 | 2 | MCN 510P |
| 19 | Mounting plinth - fuel tank | 1 | 431429 | |
| | Bolt | 3 | MCB 108 25P | plinth to frame |
| | Washer- plain | 3 | WMA 8SP | |
| | Nut - self locking | 3 | MCN 508P | |
| | Mounting rubber - Fuel tank | 6 | 432210 | |
| | Washer- large - | 6 | 652361 | |
| | Bolt - mounting | 6 | 10MCB 108 50D | |
| | Washer-large | 6 | 652361 | |
| | Spacer | 6 | 400622-76 | |



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---------------------------------------|---------|-------------|------------------|
| ☞ 1 | Fuel tank assembly - posilock | 1 | 434957 | |
| | Fuel tank | 1 | 434914 | |
| | Blanking plate | 1 | 426083 | |
| | Gasket | 1 | 657829 | |
| | Screw | 6 | MCS 106 20P | |
| | Plug - tank drain | 1 | 603678 | |
| | Seal - tank drain | 1 | 5349-3 | |
| | Breather pipe | 1 | 426886 | |
| | Clip | 2 | 656818-5 | |
| | Mounting strip - front | 1 | 427827 | tank to brkt |
| | Mounting strip - rear | 1 | 427829 | tank to plinth |
| ☞ 2 | Elbow - <i>supply</i> - Ø12 | 1 | 656181 | |
| 3 | Sleeve - 12mm | 1 | 655832-3 | |
| 4 | Tube - Ø 12-black - supply | 11m | 654993 | |
| 5 | Elbow - <i>supply</i> - Ø 12 | 1 | 659113-1 | |
| 6 | Adaptor - RH front lift pump port | 1 | 659112-1 | |
| 7 | Elbow - <i>return</i> - Ø 10 | 1 | 659113-2 | |
| 8 | Adaptor - LH rear lift pump port | 1 | 659112-2 | |
| 9 | Tube - Ø 10-black - return line | 15m | 654992 | |
| ☞ 10 | Elbow - <i>return</i> - Ø 10 | 1 | 655842 | |
| ☞ 11 | Sleeve - 10mm | 1 | 655832-1 | |
| 12 | Mounting plinth - fuel tank | 1 | 431429 | |
| | Bolt | 3 | MCB 108 25P | plinth to frame |
| | Washer- plain | 3 | WMA 8SP | |
| | Nut - self locking | 3 | MCN 508P | |
| | Bolt | 3 | MCB 108 55P | tank to frt brkt |
| | Washer- plain | 3 | WMA 8SP | |
| | Washer - spring | 3 | WMC 8SP | |
| | Bolt | 3 | MCB 108 25P | tank to plinth |
| | Washer- plain | 3 | WMA 8SP | |
| | Washer-spring | 3 | WMC 8SP | |
| | Spacer | 6 | 400622-76 | |
| 13 | Filler - posilock | 1 | 657858 | |
| 14 | Fuel pipe - block to lift pump - Ø8mm | 1 | 433957 | |
| 15 | Fuel pipe - lift pump to ECU - Ø10mm | 1 | 431409 | |
| 16 | Lift pump bracket | 1 | 429580 | |
| | Setscrew | 2 | MCS 110 30P | |
| | Washer - plain | 2 | WMA 10SP | |
| | Nut | 2 | MCN 510P | |

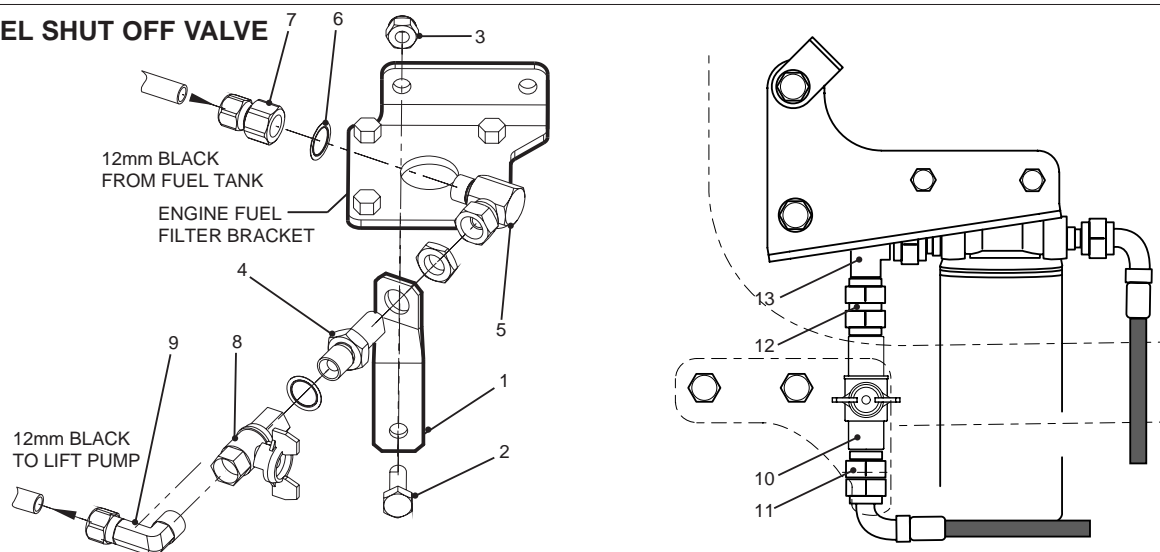


| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|--------------|---------|
| 1 | Fuel tank assembly - rearmost filler | 1 | 426184 | |
| 2 | Filler neck | 1 | 426851 | |
| 3 | Plug - tank drain | 1 | 603678 | |
| 4 | Seal - tank drain | 1 | 5349-3 | |
| 5 | Strap assembly - lower | 1 | 428589 | |
| 6 | Bar - threaded | 2 | 420562 | |
| 7 | Bar - spacer - half | 2 | 428185 | |
| 8 | Capscrew | 2 | MCS 3610 55P | |
| 9 | Spring washer | 2 | WMC 10SP | |
| 10 | Bracket - fuel tank mounting | 1 | 426134 | |
| 11 | Rubber mounting strip | 1 | 426127 | |
| | Bolt | 3 | MCB 110 30P | |
| | Nut | 3 | MCN 510P | |
| 12 | Filler cap - c/w washers | 1 | 658137 | |
| 13 | Breather | 1 | 417362 | |
| | Tube - breather | 1 | 654242 | |
| | Setscrew | 2 | MCS 105 20P | |
| | Washer - plain | 2 | WMA 6SP | |
| 14 | Elbow | 1 | 655164 | |
| 15 | Tube - Ø 8- black - breather | 1 | 651548 | |
| 16 | Elbow - <i>supply</i> - Ø12 | 1 | 656181 | |
| 17 | Sleeve - 12mm | 1 | 655832-3 | |
| 18 | Tube - Ø 12-black - supply | 11m | 654993 | |
| ☞ 19 | Elbow - <i>supply</i> - Ø 12 | 1 | 659113-1 | |
| ☞ 20 | Adaptor - RH front lift pump port | 1 | 659112-1 | |
| ☞ 21 | Elbow - <i>return</i> - Ø 10 | 1 | 659113-2 | |
| ☞ 22 | Adaptor - LH rear lift pump port | 1 | 659112-2 | |
| 23 | Tube - Ø 10-black - return line | 15m | 654992 | |
| 24 | Elbow - <i>return</i> - Ø 10 | 1 | 655842 | |
| 25 | Sleeve - 10mm | 1 | 655832-1 | |
| 26 | Fuel pipe - block to lift pump - Ø8mm | 1 | 433957 | |
| 27 | Fuel pipe - lift pump to ECU - Ø10mm | 1 | 431409 | |
| 28 | Lift pump bracket | 1 | 429580 | |
| | Setscrew | 2 | MCS 110 30P | |
| | Washer - plain | 2 | WMA 10SP | |
| | Nut | 2 | MCN 510P | |
| ☞ 29 | Bracket assembly - fuel tank hold down | 1 | 428266 | |
| | Bracket - fuel pipe | 1 | 424358 | |



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|---------------|-----------------|
| 1 | Fuel tank assembly - steel - 325 litres | 1 | 436998 | FS1511N |
| | Filler neck | 1 | 434932 | |
| | Fuel tank - steel | 1 | 436949 | |
| 2 | Elbow - <i>supply</i> - Ø12 | 1 | 656181 | |
| 3 | Sleeve - 12mm | 1 | 655832-3 | |
| 4 | Tube - Ø 12-black - supply | 11m | 654993 | |
| 5 | Elbow - <i>supply</i> - Ø 12 | 1 | 659113-1 | |
| 6 | Adaptor - RH front lift pump port | 1 | 659112-1 | |
| 7 | Elbow - <i>return</i> - Ø 10 | 1 | 659113-2 | |
| 8 | Adaptor - LH rear lift pump port | 1 | 659112-2 | |
| 9 | Tube - Ø 10-black - return line | 15m | 654992 | |
| 10 | Elbow - <i>return</i> - Ø 10 | 1 | 655842 | |
| 11 | Sleeve - 10mm | 1 | 655832-1 | |
| 12 | Mounting plinth - fuel tank | 1 | 431429 | |
| | Bolt | 3 | MCB 108 25P | plinth to frame |
| | Washer- plain | 3 | WMA 8SP | |
| | Washer- large | 6 | 652361 | |
| 13 | Filler cap - c/w washers | 1 | 658137 | |
| | Washer - filler cap | 2 | 658137-2 | |
| 14 | Elbow | 1 | 655164 | |
| 15 | Tube - Ø 8 - black - breather | 1 | 651548 | |
| 16 | Breather | 1 | 417362 | |
| 17 | Tube - Breather | A/R | 654242 | |
| 18 | Sender unit - 325 litre tank only | 1 | 659056-4 | |
| | Gasket - sender unit | 1 | 660233 | |
| | Setscrew | 5 | MCS 105 10P | |
| | Washer - spring | 5 | WMC 5SP | |
| | Harness - sender unit | 1 | 435134 | |
| 19 | Plate - sender unit mounting | 1 | 434651 | |
| | Gasket | 1 | 657829 | |
| 20 | Mounting rubber - Fuel tank | 6 | 432210 | |
| 21 | Bolt - mounting | 6 | 10MCB 108 50D | |
| 22 | Washer-large | 6 | 652361 | |
| 23 | Mounting strip - front | 1 | 427827 | tank to brkt |
| 24 | Mounting strip - rear | 1 | 427829 | tank to plinth |
| 25 | Fuel pipe - block to lift pump - Ø8mm | 1 | 433957 | |
| | Stud - return pipe | 1 | 432274 | |
| | Clip | 1 | 657677-1 | |
| | Nut | 1 | MCN 508P | |
| 26 | Fuel pipe - lift pump to ECU - Ø10mm | 1 | 431409 | |
| 27 | Lift pump bracket | 1 | 429580 | |
| | Setscrew | 2 | MCS 110 35P | |
| | Washer - plain | 2 | WMA 10SP | |
| | Nut | 2 | MCN 510P | |

FUEL SHUT OFF VALVE



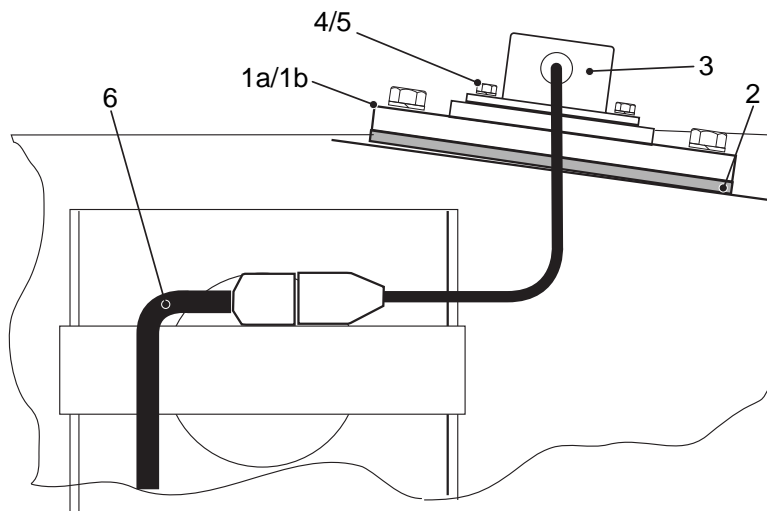
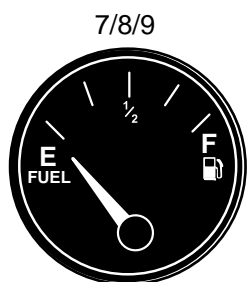
12mm BLACK FROM FUEL TANK
ENGINE FUEL FILTER BRACKET

12mm BLACK TO LIFT PUMP

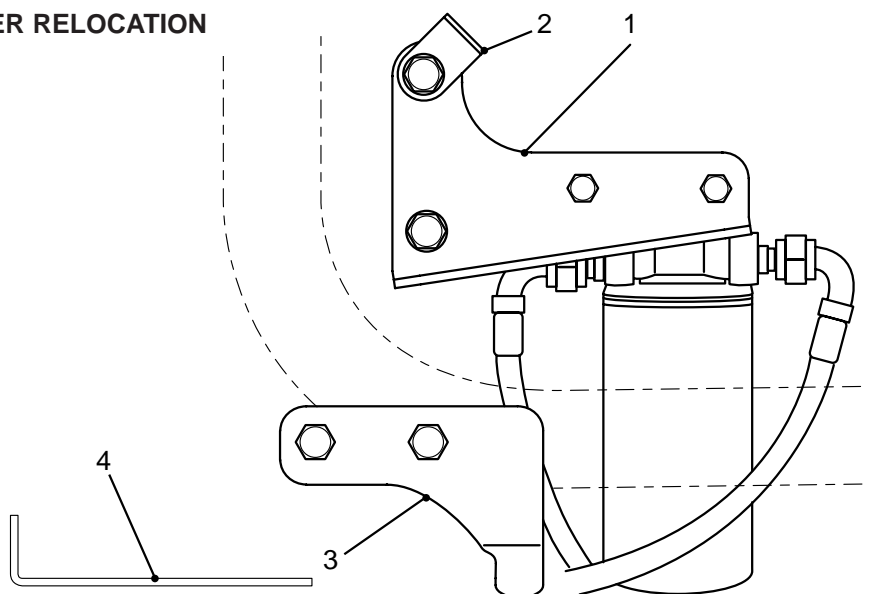
REAR RISER POSITION-AR7105

REAR OF VEHICLE POSITION-AR7629

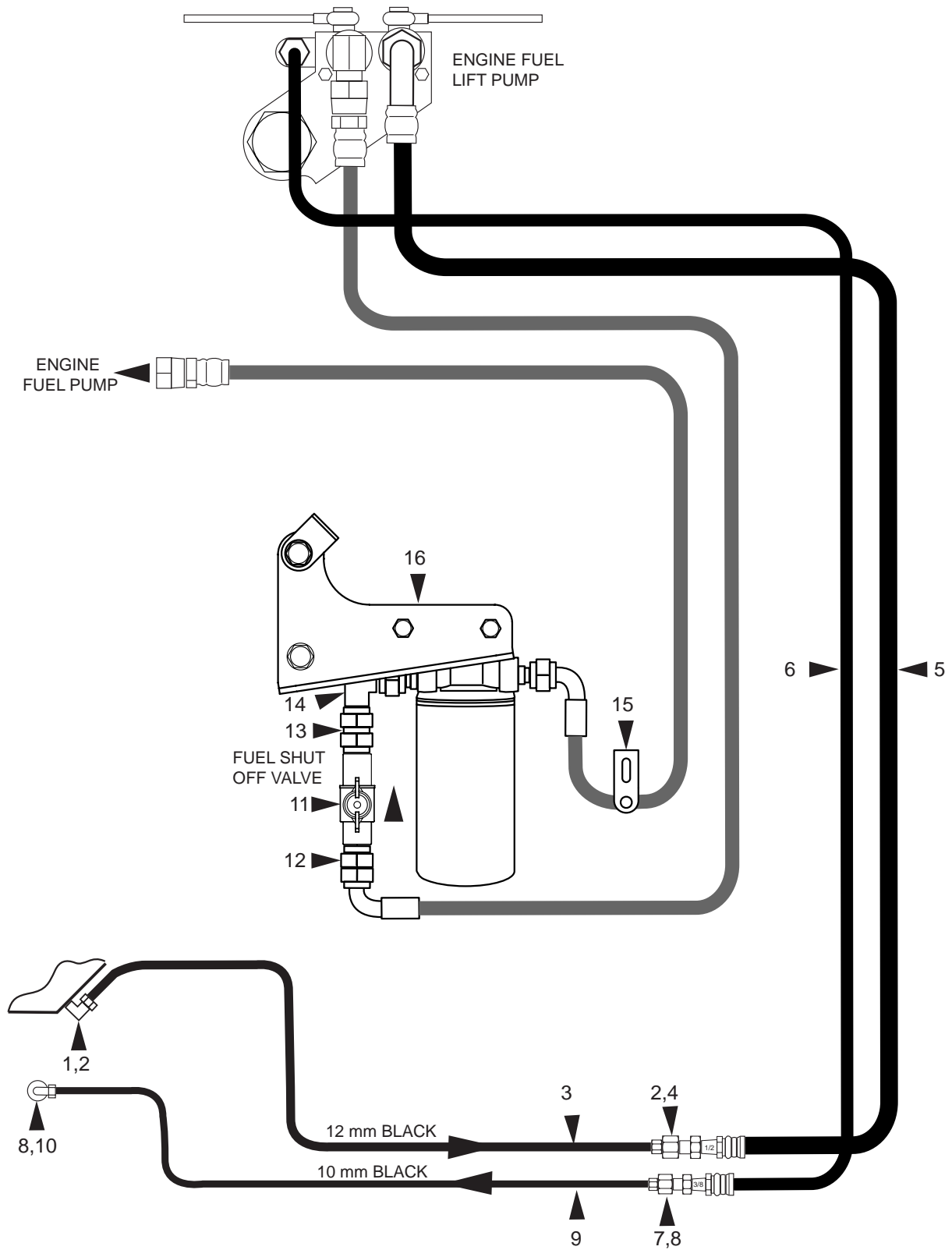
SENDER UNIT OPTION



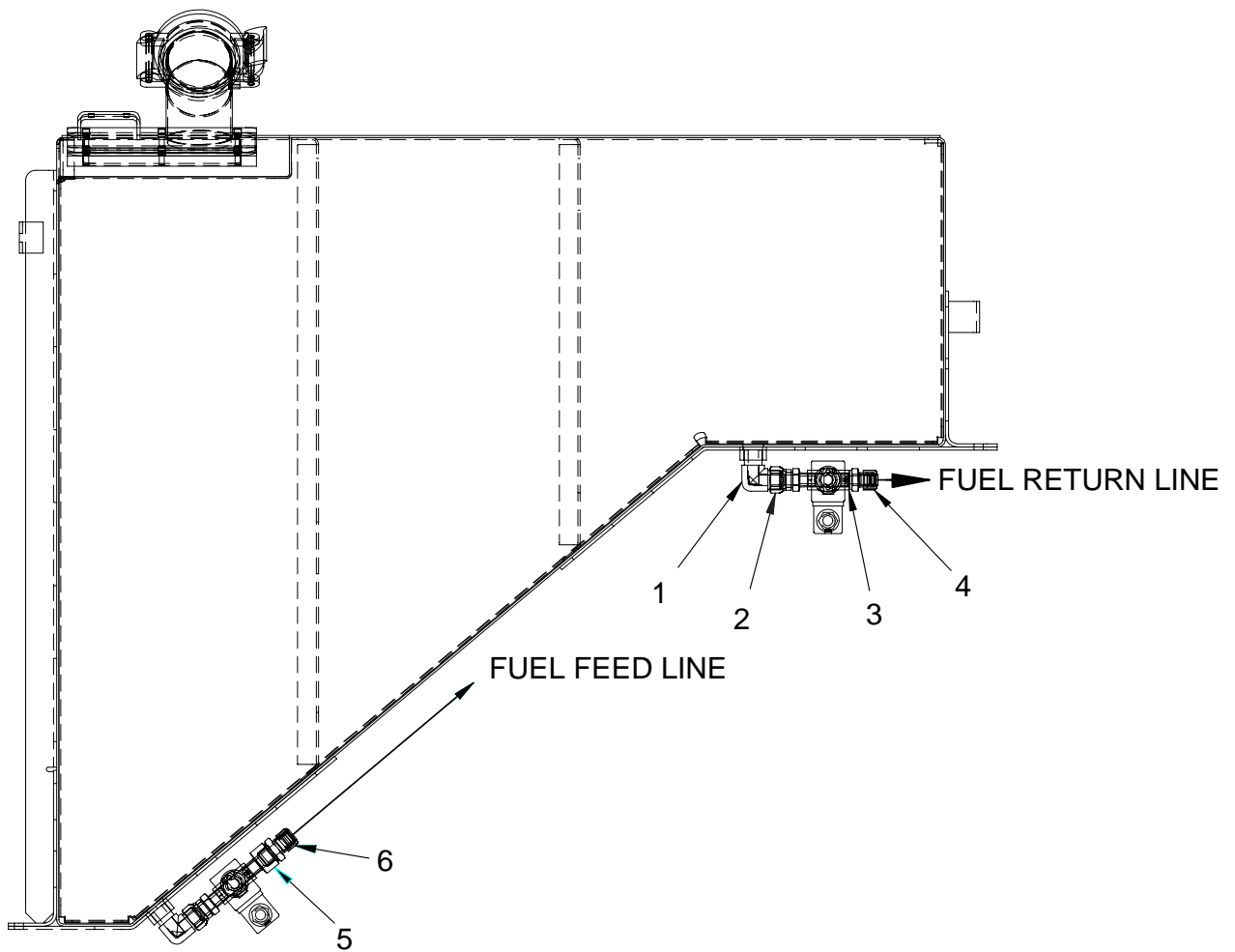
FUEL FILTER RELOCATION



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|-------------|------------------|
| | FUEL SHUTOFF VALVE | | | SL1592 |
| | Used on & up Chassis No 3157 not including 3065 | | | |
| 1 | Bracket - shut off valve | 1 | 433872 | |
| 2 | Screw | 1 | MCS 110 30P | |
| 3 | Nut | 1 | MCN 510P | |
| 4 | Bulkhead connector | 1 | 659698 | |
| 5 | Elbow - hydraulic swivel | 1 | 651151-1 | |
| 6 | Bonded seal | 1 | 603678 | |
| 7 | Connector | 1 | 656799 | |
| 8 | Valve - fuel shut off | 1 | 658188 | |
| 9 | Elbow | 1 | 656181 | |
| | Sleeve - 12mm o/d x 9mm i/d | 1 | 655832-3 | |
| | Used on & after Chassis No 3158 including 3065 | | | FS1511Q-X |
| 10 | Valve - fuel shut off | 1 | 660396 | |
| 11 | Adaptor | 1 | 660397 | |
| 12 | Adaptor | 1 | 660399 | |
| 13 | Elbow | 1 | 654659 | |
| | FUEL GAUGE - FRONT MOUNTED TANK - 275 litres | | | SK10945 |
| 1a | Plate - fuel tank - mild steel | 1 | 434651 | OL1521-1 |
| 1b | Plate - fuel tank - stainless steel | 1 | 434652 | OL1521-2 |
| 2 | Gasket | 1 | 657829 | |
| 3 | Fuel tank sender unit - 275 litre tank | 1 | 659056-3 | |
| 4 | Screw | 5 | MCS 105 10P | |
| 5 | Washer - spring | 5 | WMC 5SP | |
| 6 | Harness- sender unit | 1 | 435134 | |
| 7 | Fuel gauge - Fozmula | 1 | 659875 | |
| 8 | "O" ring | 1 | 658876 | |
| 9 | Lamp - 24v-2W | 1 | 656443 | |
| | FUEL FILTER MOUNTING - REAR ENGINE BAY | | | EM1512 |
| 1 | Bracket -fuel filter mounting | 1 | 435090 | |
| 2 | Bracket - "L" - wiring harness | 1 | 426785 | |
| | Bolt - bracket to engine | 2 | MCS 116 30P | |
| | Washer - bracket to engine | 2 | WMC 16SP | |
| | Bolt - filter to bracket | 2 | MCS 110 25P | |
| | Nut - filter to bracket | 2 | MCN 510P | |
| 3 | Bracket - fuel hose support - block pad | 1 | 436154 | |
| | Bolt | 2 | MCS 116 30P | |
| | Clip | 4 | 610029-3 | |
| 4 | Bracket - fuel hose support - base of bellhousing | 1 | 436291 | |
| | Bolt | 1 | UCB 107 14P | |



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|----------|---------|
| | FUEL PUMP PIPEWORK Used on & after Chassis No 1800 | | | |
| 1 | Elbow - tank supply | 1 | 656181 | |
| 2 | Sleeve - elbow | 1 | 655832-3 | |
| 3 | Nylon tube - 12mm dia - black | AR | 654993 | |
| 4 | Connector | 1 | 660535-8 | |
| 5 | Hose assembly - connector to pump inlet | 1 | 438723-1 | |
| 6 | Hose assembly - pump outlet to connector | 1 | 438724-1 | |
| 7 | Connector | 1 | 660535-5 | |
| 8 | Sleeve - connector | 1 | 655832-1 | |
| 9 | Nylon tube - 10mm dia - black | AR | 654992 | |
| 10 | Elbow - tank return | 1 | 655842 | |
| 11 | Valve - fuel shut off | 1 | 660396 | |
| 12 | Adaptor | 1 | 660397 | |
| 13 | Adaptor | 1 | 660399 | |
| 14 | Elbow | 1 | 654659 | |
| 15 | Bracket - fuel hose | 1 | 402421 | |
| 16 | Bracket - fuel filter | 1 | 435090 | |

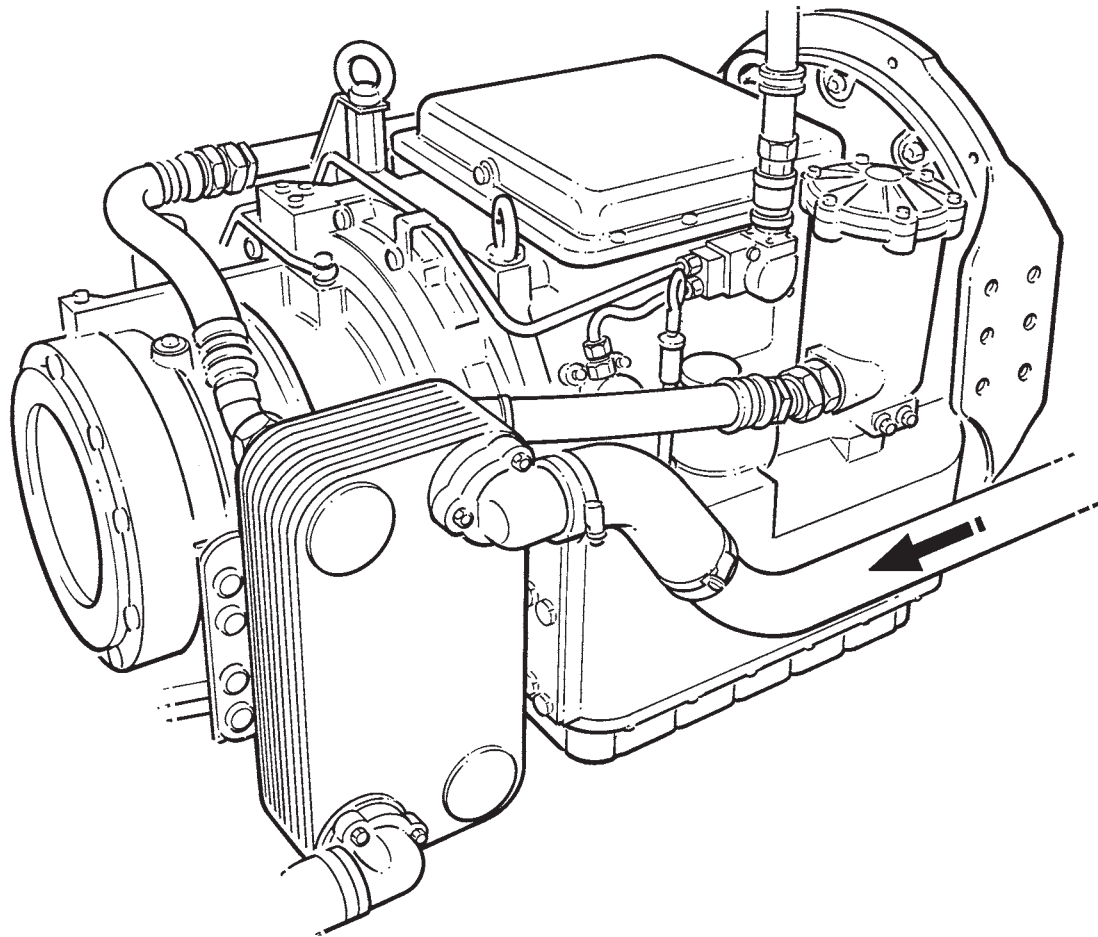


| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|----------------------------------|---------|-----------|---------|
| 1 | Elbow - tank supply | 2 | 660136 | AR7904 |
| 2 | Connector | 2 | 6660854-1 | |
| 3 | Valve - solenoid - fuel shut off | 2 | 660855 | |
| 4 | Connector | 1 | 654841 | |
| 5 | Adaptor | 1 | 654927-3 | |
| 6 | Connector | 1 | 658204 | |
| | Harness - solenoids | 1 | 440286 | SK11297 |
| | Label - "fuel shut off" | 1 | 441042 | |

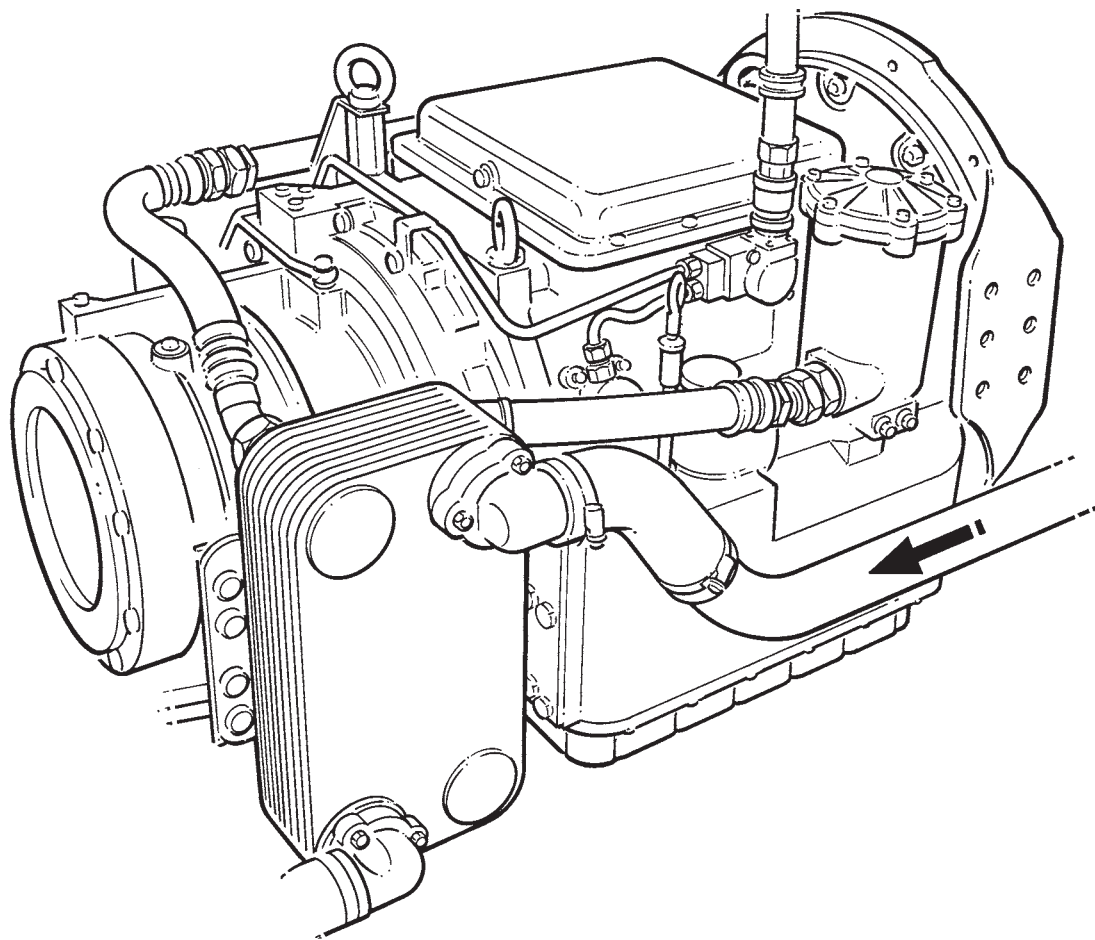
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SECTION 7.4

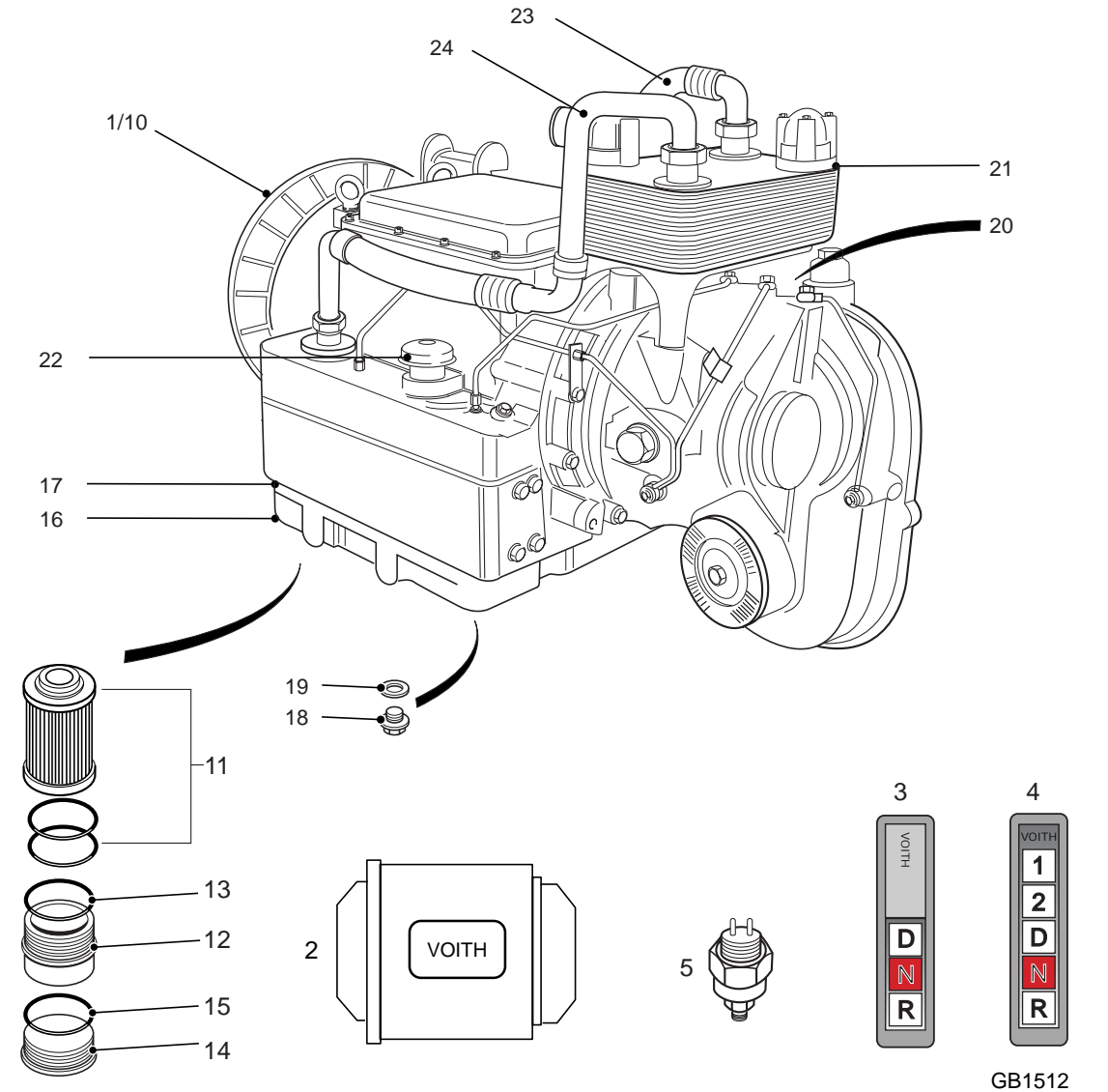
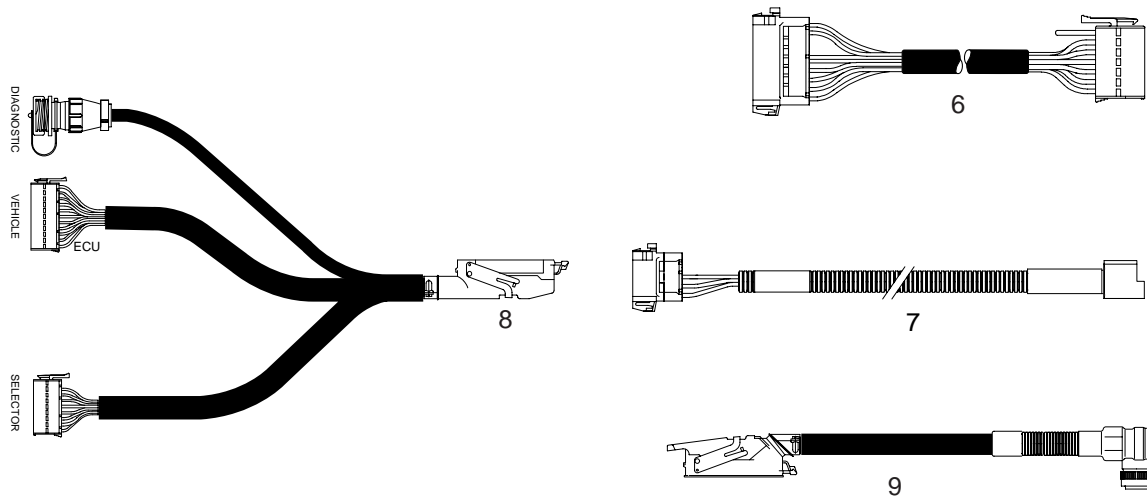
| | | |
|--|-------|-------------|
| Gearbox assembly - Voith | .Page | 7.4.2 - 5 |
| Gearbox assembly - Voith - 4 speed | .Page | 7.4.6 -7 |
| Gearbox assembly - ZF - 4HP500 | .Page | 7.4.8 - 9 |
| Gearbox assembly - ZF - 5HP500 | .Page | 7.4.8 - 9 |
| ZF Gearbox air pipework | .Page | 7.4.10 - 11 |



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|-----------|---------|
| | Used on and up to Chassis No: 1834, 1836 - 1876, 1882 - 1888, 1894 - 1895 | | | |
| | EXTERNAL FILTER TYPE | | | |
| 1a | Gearbox - Voith D851.3/W15 3H- ISC225/260 - 3 button | 1 | 658231 | GB1512A |
| | Electronic control unit | 1 | 658231-1 | |
| | Gear selector - 3 button | 1 | 660264 | |
| | Pressure switch - "gearguard" | 1 | 652061-1 | |
| | Harness - gear selector | 1 | 657218-6 | |
| | Harness - gearguard switch | 1 | 658301-4 | |
| | Harness - ECU to FEDC | 1 | 657815-4 | |
| | Harness - ECU to gearbox | 1 | 658231-3 | |
| | Intermediate ring | 1 | 658231-4 | |
| | Drive coupling (hydrodamp) | 1 | 658231-6 | |
| | Kickdown switch (See cab) | 1 | 656011-6 | |
| | Oil Filter kit - external | 1 | 656011-1 | |
| | Oil seal - Main shaft | 1 | 653709-9 | |
| | Oil cooler hose - upper | 1 | 657042-13 | |
| | Oil cooler hose lower | 1 | 657042-15 | |
| | Label - gearguard | 1 | 427926 | |
| | Used on and after Chassis No: 1835, 1877 - 1181, 1889 - 1893, 1896 | | | |
| | INTERNAL FILTER TYPE | | | |
| 1b | Gearbox - Voith D851.3/W15 T2R2- ISC225/260 - 3 button | 1 | 659648 | GB1512C |
| | Electronic control unit | 1 | 659648-1 | |
| | Drive coupling (hydrodamp) | 1 | 659648-2 | |
| | Oil filter kit - internal | 1 | 657218-1 | |
| | All other parts as 1a above | | | |
| 1c | Gearbox - Voith D851.3/W15 T2R2- ISC225/260 - 5 button | 1 | 659721 | GB1512D |
| | Gear selector - 5 button | 1 | 660265 | |
| | Oil filter kit - internal | 1 | 657218-1 | |
| | All other parts as 1a above | | | |

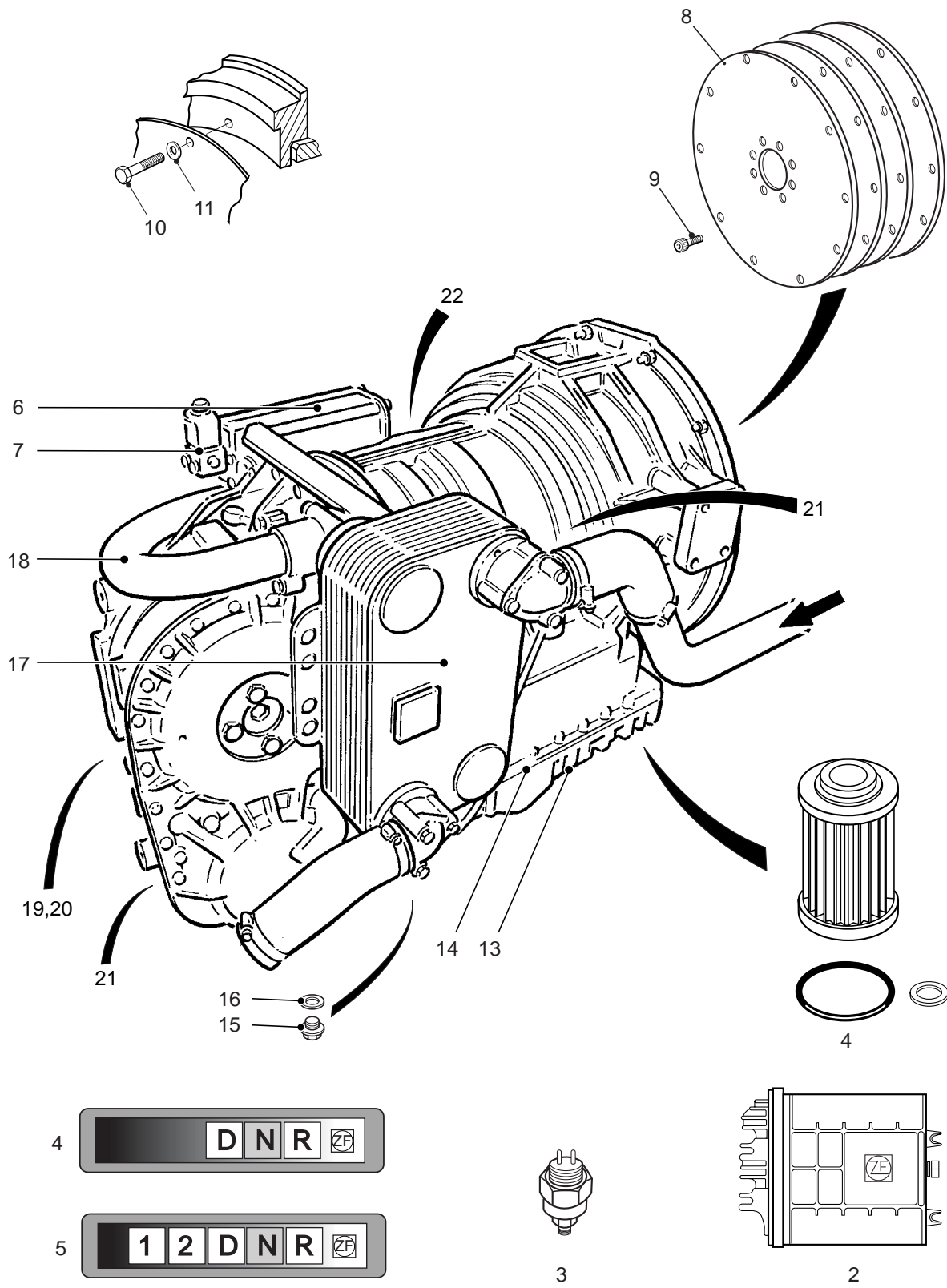


| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|------------|------------|
| | Used on and after Chassis No :2114 to 2117, 2130 2133 to 2141, 2145 onwards | | | |
| 1d | Gearbox - Voith D851.3/W15 T2R2- ISC225/260 - 3 button | 1 | 659891 | GB1512E |
| 1e | Gearbox - Voith D851.3/W15 T2R2- ISC225/260 - 5 button | 1 | 659892 | GB1512F |
| ☞ | Gear selector - 5 button | 1 | 660265 | |
| | Electronic control unit | 1 | 659891-9 | |
| | Harness - footbrake | 1 | 659891-8 | |
| | Harness - ECU to FEDC | 1 | 659891-1 | |
| | Harness - ECU to Gearbox | 1 | 658231-3 | |
| | Drive coupling (hydrodamp) | 1 | 659648-2 | |
| | Oil filter kit - internal | 1 | 657218-1 | |
| | All other parts as 1a above | | | |
| | GENERAL SPARES | | | |
| ☞ | Speedo sensor | 1 | 658866-5 | |
| ☞ | Sump | 1 | 657042-14 | |
| ☞ | Sump gasket | 1 | 650002-4 | |
| ☞ | Sump plug | 1 | 659927-3 | |
| ☞ | Seal - sump plug | 1 | 650247-2 | |
| ☞ | Oil filler cap | 1 | 652002-184 | |
| ☞ | Filter access plug | 1 | 657218-8 | |
| ☞ | "O" ring seal - access plug | 1 | 657218-9 | |
| ☞ | Selector button -"D" | 1 | 660264-1 | Dome Shape |
| ☞ | Selector button -"R" | 1 | 660264-2 | Dome Shape |
| ☞ | Selector button -"N" | 1 | 660264-3 | Dome Shape |
| | Illumination bulb - selector | 1 | 650247-12 | |

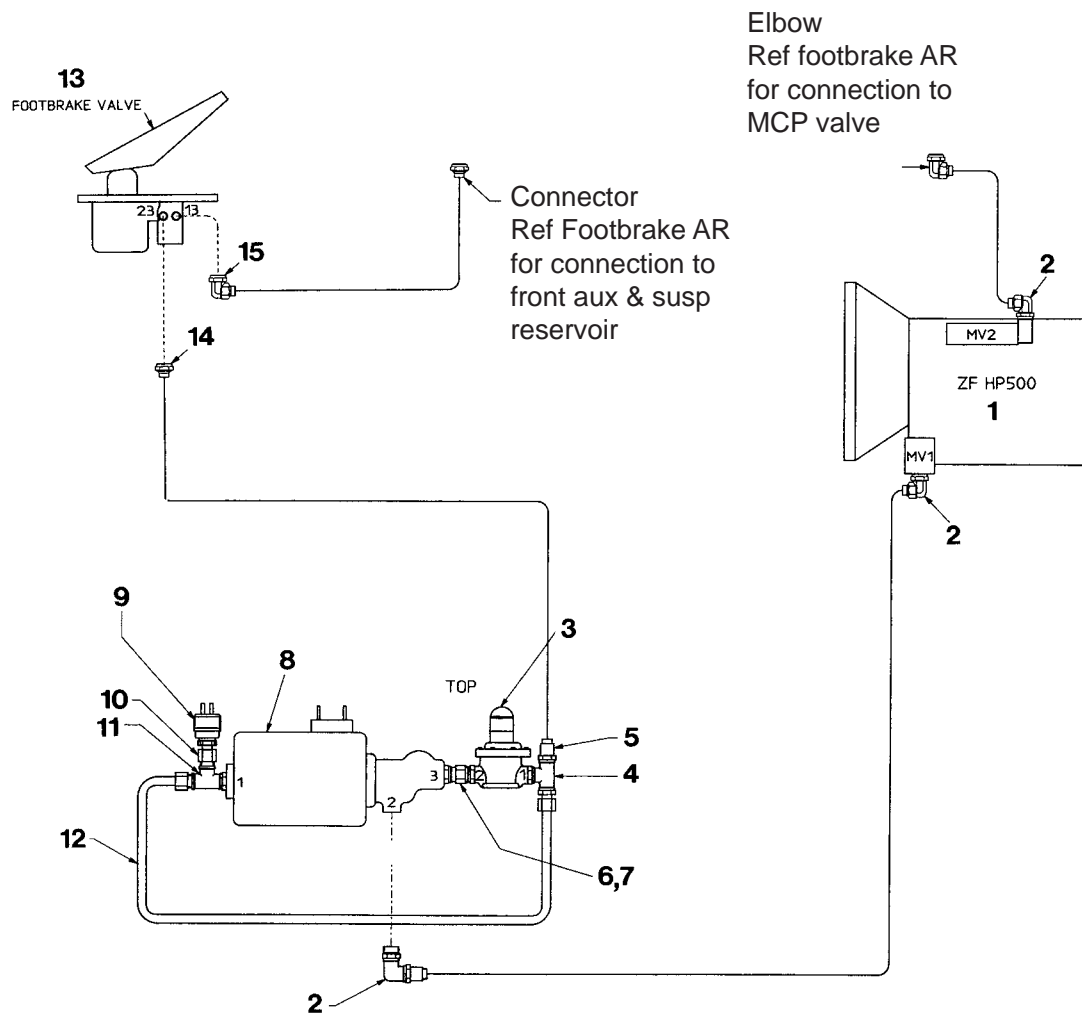


GB1512

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|------------|------------|
| | Used on and after Chassis No 2400 & 2544 onwards | | | |
| | NOTE : 4 speed Voith gearboxes are recognisable by the oil cooler being horizontally top mounted as opposed to the 3 speed being vertically side mounted. | | | |
| | INTERNAL FILTER TYPE | | | |
| 1 | Gearbox - Voith D854.3E/W21 T2R2- ISCe225 / 260 | 1 | 660374 | GB1512G&H |
| 2 | Electronic control unit | 1 | 660245 | |
| 3 | Gear selector - 3 button | 1 | 660264 | GB1512G |
| 4 | Gear selector - 5 button | 1 | 660265 | GB1512H |
| ☞ | Selector button -"D" | 1 | 660264-1 | Dome Shape |
| ☞ | Selector button -"R" | 1 | 660264-2 | Dome Shape |
| ☞ | Selector button -"N" | 1 | 660264-3 | Dome Shape |
| | Illumination bulb - selector | 1 | 650247-12 | |
| 5 | Pressure switch - "gearguard" | 1 | 652061-1 | |
| 6 | Harness - gear selector | 1 | 657218-6 | |
| 7 | Harness - foot brake | 1 | 659891-8 | |
| 8 | Harness - ECU to FEDC | 1 | 659891-1 | |
| 9 | Harness - ECU to Gearbox | 1 | 659231-2 | |
| 10 | Drive coupling (hydrodamp) | 1 | 659648-2 | |
| 11 | Oil Filter kit - internal | 1 | 657218-1 | |
| 12 | Cover - filter | 1 | 657218-11 | |
| 13 | "O" ring - filter cover | 1 | 657218-12 | |
| ☞14 | Filter access plug | 1 | 657218-8 | |
| ☞15 | "O" ring seal - access plug | 1 | 657218-9 | |
| ☞16 | Sump | 1 | 657042-14 | |
| ☞17 | Sump gasket | 1 | 650002-4 | |
| ☞18 | Plug - sump | 1 | 659927-3 | |
| ☞19 | Seal - sump plug | 1 | 650247-2 | |
| ☞20 | Speedo sensor | 1 | 658866-5 | |
| 21 | Gasket - oil cooler elbow | 1 | 657042-17 | |
| ☞22 | Breather cap | 1 | 660375-1 | |
| ☞22 | Oil filler cap | 1 | 652002-184 | |
| ☞23 | Hose assembly - oil cooler | 1 | 660244-2 | |
| ☞24 | Hose assembly - oil cooler | 1 | 660244-3 | |
| | Intermediate ring | 1 | 658231-4 | |
| | Kickdown switch (See section 3 Cab floor plate) | 1 | - | |
| | Label - gearguard | 1 | 427926 | |
| | Grease - high temperature | | 660462 | |
| | (Apply liberally to clean spline & hub) | | | |
| ☞ | Harness extension - Voith ECU - FEDC | 1 | 435237 | AL1431-1 |



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|------------|-----------|
| 1a | Gearbox - 4HP502C - 5 button | 1 | 658233 | GB1513A,J |
| | Electronic control unit - 4 speed - C225/260 | 1 | 658233-3 | |
| 1b | Gearbox - 5HP502C - 5button | 1 | 658235 | GB1513C,L |
| | Electronic control unit - 5 speed - C225/260 | 1 | 658235-1 | |
| 1c | Gearbox - 4HP502C - 3 button | 1 | 659177 | GB1513E,L |
| | Electronic control unit - 4 speed - C225/260 | 1 | 658233-3 | |
| 1d | Gearbox - 5HP502C - 3 button | 1 | 659135 | GB1513G,M |
| | Electronic control unit - 5 speed - C225/260 | 1 | 658235-1 | |
| 2 | Filter kit - comprising - element, 'O' ring & gasket | 1 | 652638-1 | |
| 3 | Pressure switch - "EK" - 0.9 bar | 1 | 656626-6 | |
| 4a | Selector switch - 3 button | 1 | 658233-2 | GB1513E&G |
| 5a | Selector switch - 5 button | 1 | 654673-2 | GB1513A,C |
| ☞ 6 | Accumulator assembly | 1 | 658233-4 | |
| ☞ 7 | Solenoid - accumulator | 1 | 659135-3 | |
| 8 | Flexplate | 4 | 657034-4 | |
| 9 | Location screw - ring gear adaptor to crankshaft | 2 | 657465-7 | 18Nm |
| 10 | Screw - flexplate to torque convertor | 10 | 657034-5 | 81 Nm |
| 11 | Washer - capscrew | 10 | 656046-122 | |
| 12 | Bolt - flexplates/flexplate clamp/crankshaft adaptor | 8 | 654503 | 137Nm |
| ☞ 13 | Sump | 1 | 659135-4 | |
| ☞ 14 | Gasket - sump | 1 | 655018-2 | |
| ☞ 15 | Plug - oil drain - sump | 1 | 653991-2 | |
| ☞ 16 | Washer - oil drain plug | 1 | 653991-3 | |
| ☞ 17 | Oil cooler | 1 | 657465-8 | |
| ☞ 18 | Oil cooler - top pipe | 1 | 658030 | |
| ☞ 19 | Output flange | 1 | 659177-1 | |
| ☞ 20 | Seal - out put - angle drive | 1 | 653709-9 | |
| ☞ 21 | Speedo sender unit | 1 | 658235-3 | |
| ☞ 22 | Temperature sender | 1 | 659135-2 | |
| | Wiring harness | 1 | 658233-1 | |
| | Kickdown switch (<i>See section 3 Cab floor plate</i>) | 1 | 655492 | |
| | Used on and after Chassis No 2400 & 2544 onwards | | | |
| 4a | Selector switch - 5 button | 1 | 660133 | GB1513K,M |
| 4b | Selector switch - 3 button | 1 | 660132 | GB1513J,L |



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|----------|---------|
| 1 | Gearbox | - | - | |
| 2 | Elbow | 3 | 654919-1 | |
| 3 | Pressure reducing valve | 1 | 653709-1 | |
| 4 | Tee piece | 1 | 655007 | |
| | Adaptor | 1 | 654938 | |
| 5 | Connector | 1 | 654921-1 | |
| 6 | Adaptor | 1 | 654936 | |
| 7 | Adaptor | 1 | 654909-5 | |
| 8 | Solenoid valve | 1 | 653709-1 | |
| 9 | Pressure switch | 1 | 651480-7 | |
| 10 | Adaptor | 1 | 418461 | |
| 11 | Tee piece | 1 | 654937 | |
| 12 | Pipe assembly | 1 | 423822 | |
| 13 | Footbrake valve - ZF (See braking system) | 1 | 657186 | |
| 14 | Connector | 1 | 654919-1 | |
| 15 | Elbow | 1 | 654921-1 | |
| | Pipe-Nylon - 10mm O/D | 15m | 654992 | |

DENNIS

SECTION 8.1

Used on and up to Chassis No 2012

Hydraulic systemPage 8.1.2 - 5

Used from & up to Chassis No 2013 - 2543 except 2400

Used on & upto No 2400 & 2544-3157 not inc 3065

Used on & after Chassis No 3158 including 3065

Hydraulic systemPage 8.1.2 - 5

Hydraulic reservoirPage 8.1.6 - 7

Fan motor & carrier assemblyPage 8.1.8 - 9

Used on & after Chassis No 2400 & 2544 onwards

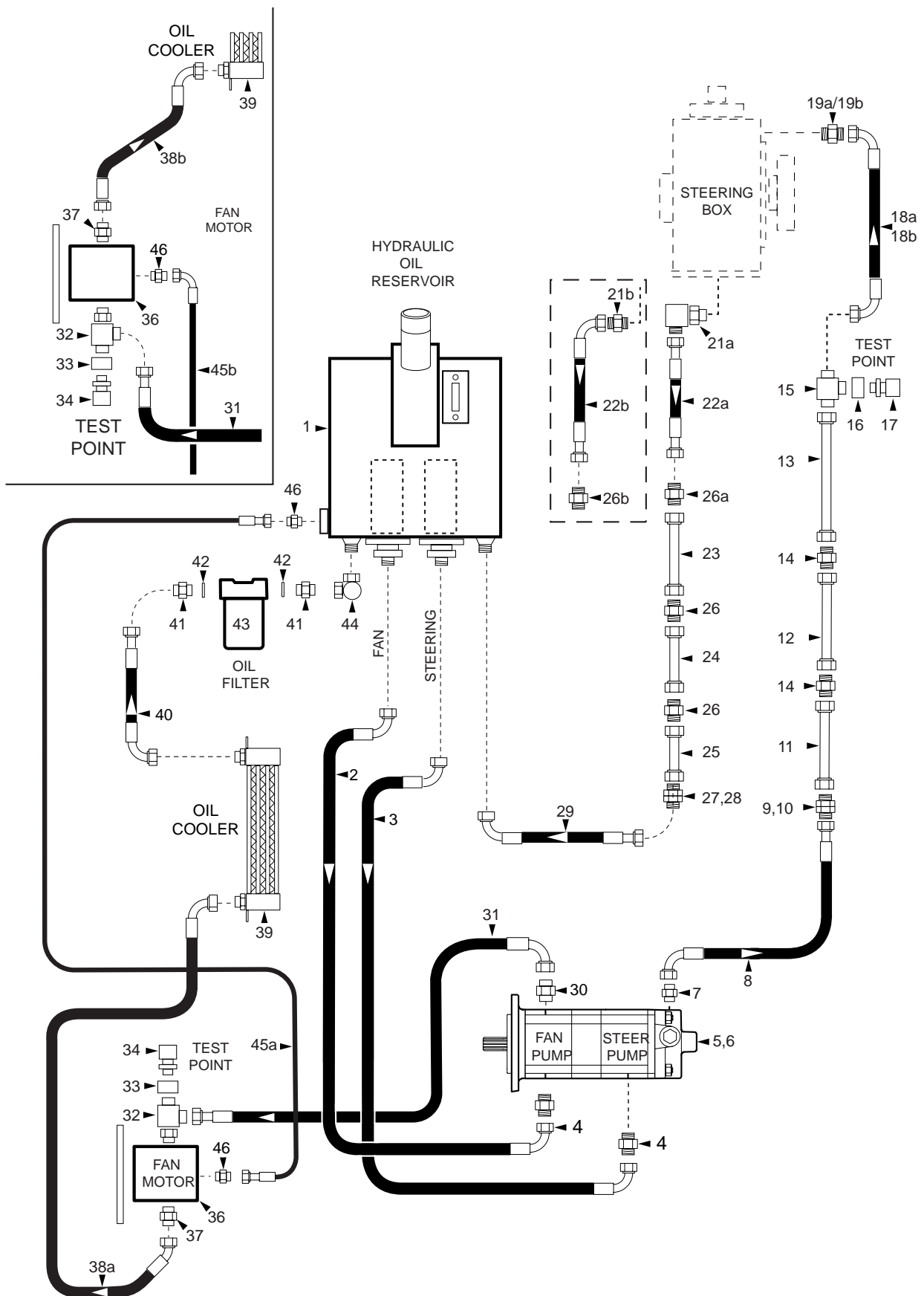
Fan motor & carrier assembly - 4 speed Voith (metal fan)Page 8.1.10 - 11

HYDRAULIC SYSTEM

PARTS MANUAL

AMENDED:071004

UNIT NO:HS1511A-D.HS1513A-D.HS1515A-D



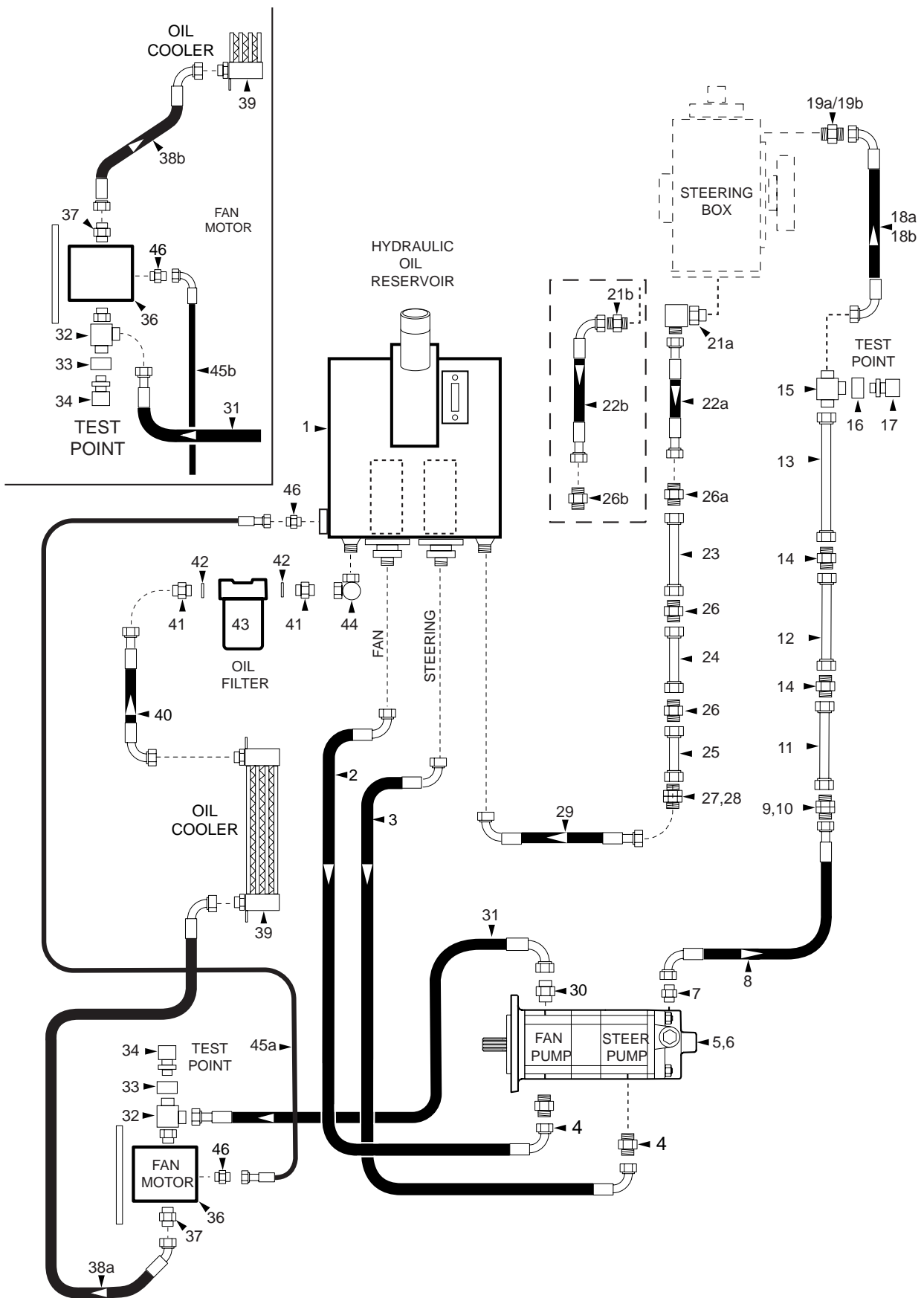
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|----------|---------------|
| | Used on and up to Chassis No 2012 | | | HS1511 |
| 1 | Hydraulic oil reservoir (see separate list) | 1 | 436824 | |
| 2 | Hose assembly - reservoir to fan pump | 1 | 422377 | |
| 3 | Hose assembly - reservoir to steering pump | 1 | 422376 | |
| 4 | Connector | 2 | 656251-3 | |
| 5 | Tandem pump | 1 | 658863 | |
| | Kit - tandem pump | 1 | 657461-1 | |
| 6 | Screw - tandem pump mounting | 2 | 655145 | |
| 7 | Adaptor - steering pump outlet | 1 | 653810 | |
| 8 | Hose assembly - pump to bulkhead | 1 | 422379 | |
| 9 | Bulkhead connector | 1 | 654957-1 | |
| 10 | Locknut | 1 | 654958-1 | |
| 11 | Pipe assembly - rear | 1 | 426698 | |
| 12a | Pipe assembly - mid (9.9m chassis) | 1 | 422385 | HS1511/1513A |
| 12b | Pipe assembly - mid (10.40m chassis) | 1 | 424583 | HS1511/1513B |
| 12c | Pipe assembly - mid (10.60 m chassis) | 1 | 426612 | HS1511/1513C |
| 12d | Pipe assembly - mid (11.40 m chassis) | 1 | 429934 | HS1511/1513D |
| 13 | Pipe assembly - front feed | 1 | 422386 | |
| 14 | Adaptor | 2 | 654955-1 | |
| 15 | Tee piece | 1 | 654956 | |
| 16 | Adaptor | 1 | 654945 | |
| 17 | Test point | 1 | 656394 | |
| 18a | Hose assembly - tee to steering gear | 1 | 422380 | |
| 19 | Adaptor | 1 | 659632 | |
| 20 | Steering gear (See steering section) | 1 | - | |
| 21a | Elbow - steering gear outlet | 1 | 654933-5 | |
| 22a | Hose assembly - elbow to pipe - (straight) | 1 | 422381 | |
| 23 | Pipe assembly - front | 1 | 422387 | |
| 24a | Pipe assembly - mid (9.9m chassis) | 1 | 422388 | HS1510/1513A |
| 24b | Pipe assembly - mid (10.40m chassis) | 1 | 424584 | HS1511/1513B |
| 24c | Pipe assembly - mid (10.60m chassis) | 1 | 426613 | HS1511/1513C |
| 24d | Pipe assembly - mid (11.40m chassis) | 1 | 429935 | HS1511/1513D |
| 25 | Pipe assembly - rear | 1 | 422390 | |
| 26a | Adaptor | 3 | 654955-2 | |
| 27 | Bulkhead connector | 1 | 654957-2 | |
| 28 | Locknut | 1 | 654958-2 | |
| 29 | Hose assembly - reservoir return | | 422382 | |
| 30 | Adaptor - fan pump outlet | 1 | 656251-9 | |
| ☞31 | Hose assembly - pump to tee | 1 | 433443 | |

HYDRAULIC SYSTEM

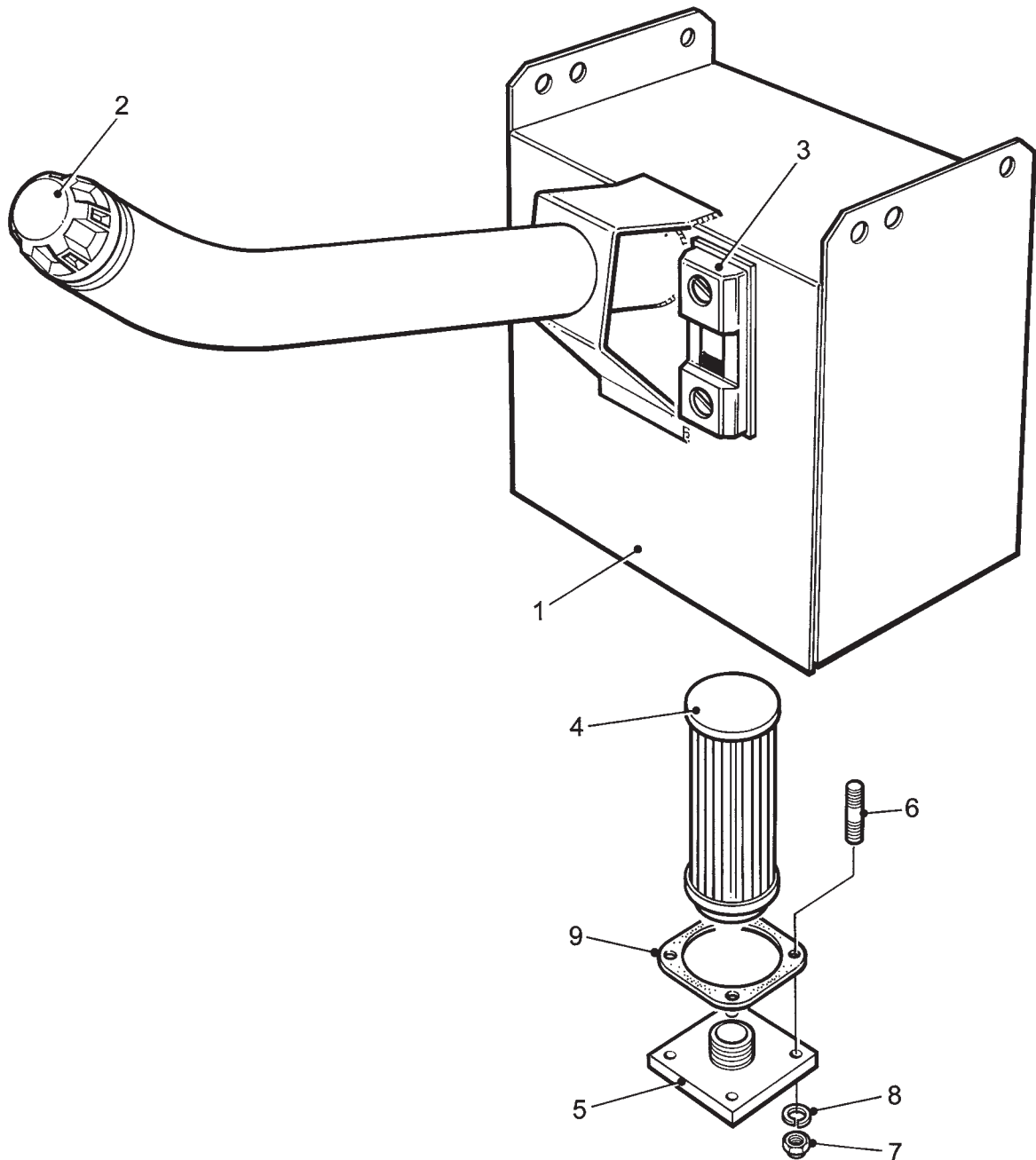
PARTS MANUAL

AMENDED:071004

UNIT NO:HS1511A-D.HS1513A-D.HS1515A-D

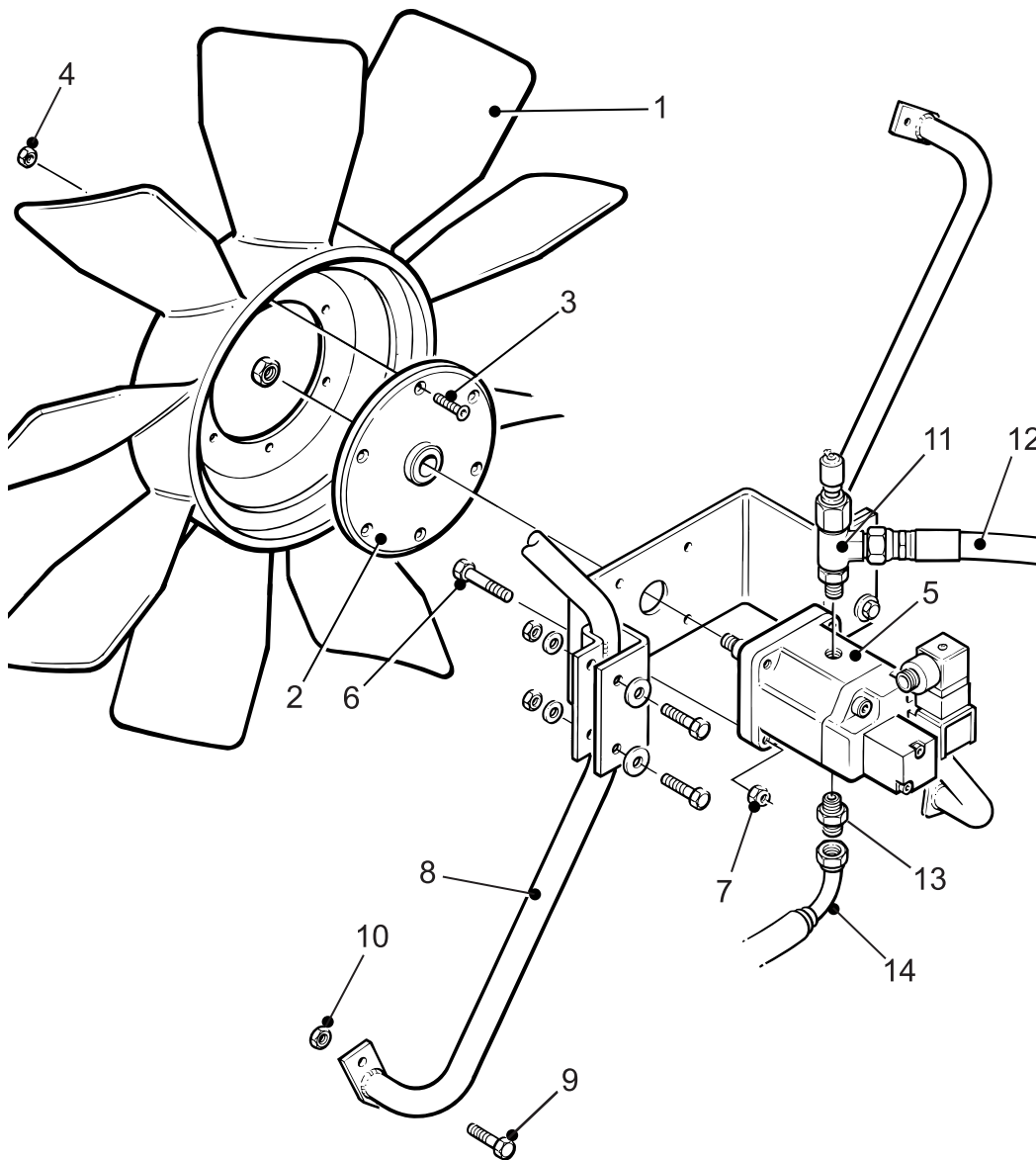


| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|----------|----------------------|
| 32 | Tee | 1 | 659323 | |
| 33 | Union | 1 | 654945 | |
| 34 | Test point | 1 | 656394 | |
| 36 | Fan motor | 1 | 658513 | |
| | Seal kit | 1 | 658086-1 | |
| | Solenoid - fan motor | 1 | 655109-2 | |
| ☞ 37 | Adaptor - pump outlet | 1 | 656251-2 | |
| 38a | Hose assembly - pipe to oil cooler | 1 | 433444 | |
| ☞ 39a | Oil cooler - cast header tank | 1 | 428035-1 | SEE NOTE |
| ☞ 39b | Oil cooler with recirculation panel kit | 1 | 660827 | SEE NOTE |
| ☞ 39c | Recirculation panel | 1 | 428035-4 | SEE NOTE |
| 40 | Hose assembly - oil cooler to filter | 1 | 431750 | |
| 41 | Adaptor | 2 | 606122 | |
| 42 | Seal | 2 | 603680 | |
| 43 | Filter assembly | 1 | 656730 | |
| | Element - filter | 1 | 656730-1 | |
| 44 | Elbow | 1 | 651322 | |
| 45a | Hose assembly - fan motor drain to tank | 1 | 433445 | |
| 46a | Adaptor - fan motor | 1 | 658128 | |
| | Used on & after Chassis No 2013 (not including 2400) | | | HS1513/HS1515 |
| | All other components as above | | | |
| 18b | Hose assembly - tee to steering gear | 1 | 433440 | |
| 19b | Adaptor | 1 | 659320 | |
| | Bonded seal | 2 | 658379 | |
| 21b | Adaptor - steering gear outlet | 1 | 659632 | |
| | Bonded seal | 2 | 658379 | |
| ☞ | Used on and up to Chassis No : 2543 excluding 2400 | | | |
| ☞ 22b | Hose assembly - elbow to pipe | 1 | 433441 | |
| ☞ | Used on and after Chassis No : 2544 onwards + 2400 | | | |
| ☞ 22c | Hose assembly - elbow to pipe | 1 | 436968 | |
| 26b | Adaptor - steering box outlet hose | 1 | 659630 | |
| ☞ | | | | |
| 38b | Hose assembly - pipe to oil cooler | 1 | 436969 | |
| 45b | Hose assembly - fan motor drain to tank | 1 | 435897 | |
| 46b | Adaptor - fan motor | 1 | 659322 | |
| | NOTE | | | |
| | The oil cooler supplied as a spare now has cast header tanks. If replacing an earlier fabricated header type cooler with the latest cast type a kit will be required that includes a recirculation panel. | | | |



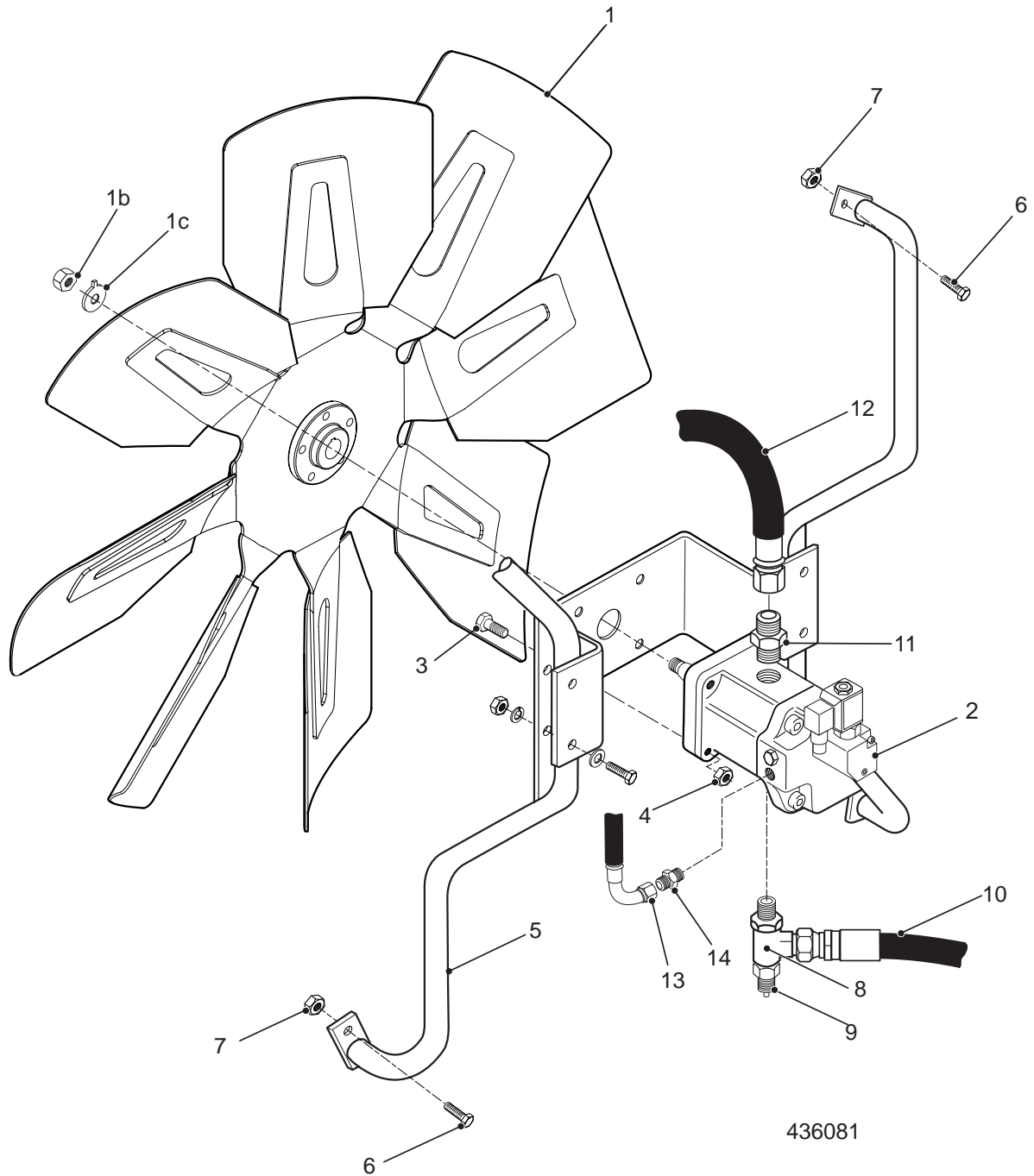
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|-------------|---------------|
| ☞ | Hydraulic oil reservoir assembly | 1 | 436824 | |
| ☞ 1 | Hydraulic oil tank | 1 | 435920 | |
| ☞ 2 | Filler & breather unit c/w screw - metal | 1 | 660344 | |
| | Gasket - filler | 1 | 659905 | |
| 3 | Sight gauge | 1 | 650164 | 10Nm |
| 4 | Filter - suction | 2 | 650031 | |
| 5 | Adaptor - suction filter | 2 | 420554 | |
| 6 | Stud | 8 | 401586-1 | |
| 7 | Nut | 8 | MCN 208P | |
| 8 | Washer - spring | 8 | WMC 8SP | |
| 9 | Gasket - suction filter adaptor | 2 | 400197 | |
| | Label - "Hydraulic oil only" | 1 | 27975 | |
| | PIPE CLIPPING | | | AR7070 |
| | Isolator bracket assembly - straight | 1 | 433271 | |
| | Tube insert | 1 | 433482 | |
| | Plate | 1 | 427384 | |
| | Isolator | 1 | 658135 | |
| | Isolator bracket assembly - angled | 6 | 427379 | |
| | Plate | 1 | 427380 | |
| | Isolator | 1 | 658135 | |
| | Bolt | 8 | MCB 105 40P | |
| | Nut | 8 | MCN 505P | |
| | Washer - flat - large | 8 | 109400 | |

Used on and up to Chassis No 2543 except 2400



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|--------------|---------|
| | Used on and up to Chassis No 2543 except 2400 | | | |
| 1 | Fan blade | 1 | 656756 | |
| 2 | Flange - fan blade to motor | 1 | 406935 | |
| 3 | Screw - csk - socket head | 6 | MCS 3408 25P | |
| 4 | Nut - self locking | 6 | MCN 708P | |
| 5 | Fan motor | 1 | 658513 | |
| | Seal kit | 1 | 658086-1 | |
| 6 | Bolt | 4 | MCB 108 35P | |
| 7 | Nut - self locking | 4 | MCN 708P | |
| 8 | Fan carrier mounting frame : | | | |
| | Fan carrier arm | 2 | 425472-4 | |
| | Fan mounting plate | 1 | 425472-12 | |
| 9 | Bolt | 4 | MCB 108 25P | |
| 10 | Nut - self locking | 4 | MCN 708P | |
| ☞ 11 | Tee piece-inlet | 1 | 659323 | |
| | Test point | 1 | 656394 | |
| 12 | Hose assembly - motor to tee | 1 | 425490 | |
| ☞ 13 | Connector - outlet | 1 | 656251-2 | |
| 14 | Hose assembly - motor to cooler | 1 | 425491 | |

Used on and after Chassis No 2544 onwards(including 2400)



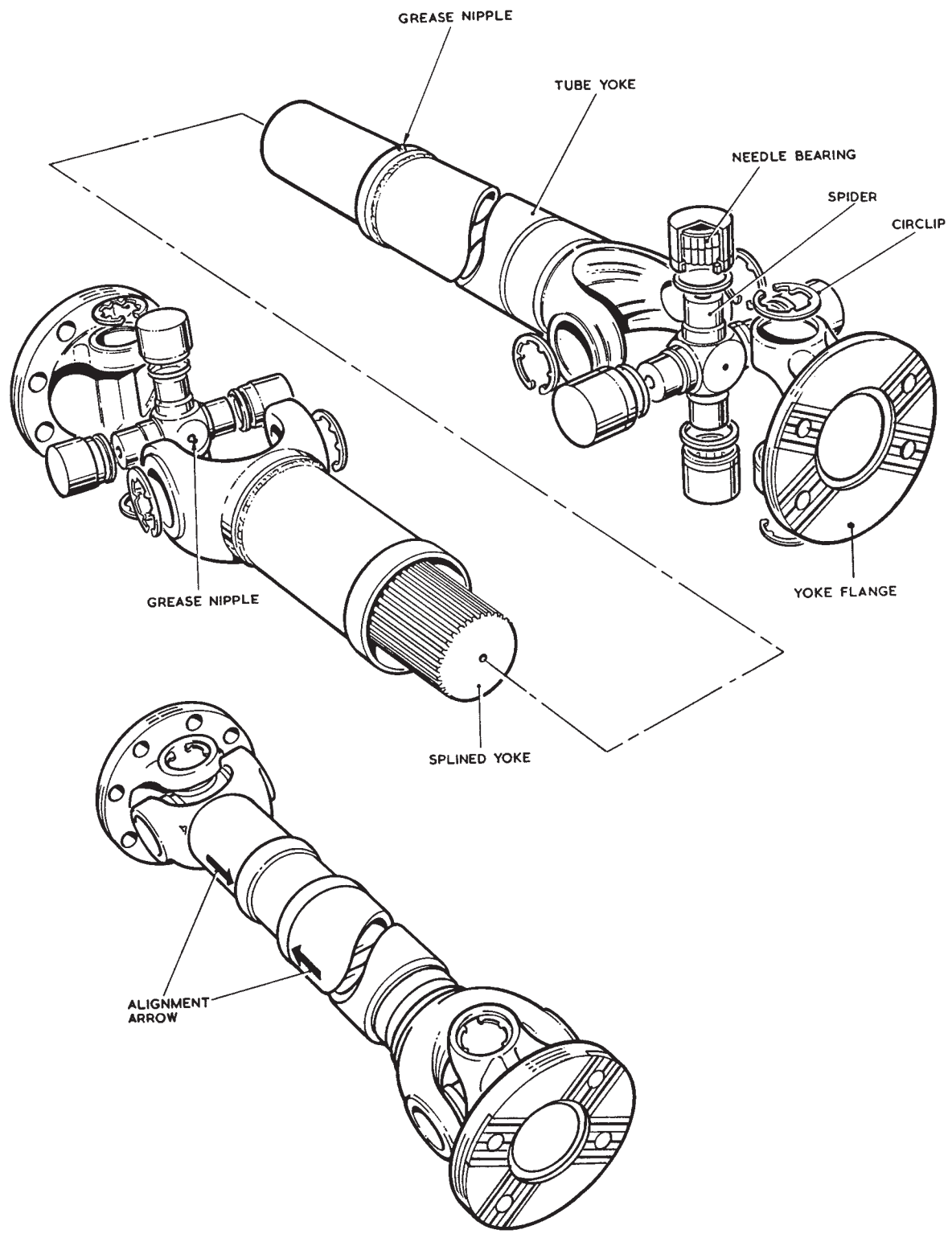
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| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|-------------|---------|
| | Used on and after Chassis No 2544 onward (inc 2400) | | | |
| 1a | Fan blade assembly - metal | 1 | 659981 | |
| 1b | Nut - fan motor spindle | 1 | 650155-13 | |
| 1c | Tab washer - fan motor spindle | 1 | 650155-13 | |
| 2 | Fan motor | 1 | 660051 | |
| | Seal kit | 1 | 658086-1 | |
| | Solenoid block - fan motor | 1 | 660051-1 | |
| 3 | Bolt | 4 | MCB 108 35P | |
| 4 | Nut - self locking | 4 | MCN 708P | |
| 5 | Fan carrier mounting frame : | | | |
| | Fan carrier arm | 2 | 435179-3 | |
| | Fan mounting plate | 1 | 435179-4 | |
| ☞ | Bolt | 4 | | |
| ☞ | Nut - self locking | 4 | | |
| ☞ | Washer - Spring | 4 | | |
| ☞ | Washer - Plain | 4 | | |
| 6 | Bolt | 4 | MCB 108 25P | |
| 7 | Nut - self locking | 4 | MCN 708P | |
| ☞ 8 | Tee piece-inlet | 1 | 659323 | |
| 9 | Test point | 1 | 656394 | |
| ☞ 10 | Hose assembly - tandem pump to tee | 1 | 433443 | |
| ☞ 11 | Connector - outlet | 1 | 656251-2 | |
| ☞ 12 | Hose assembly - fan motor to cooler | 1 | 436969 | |
| ☞ 13 | Hose assembly - fan motor drain | 1 | 435897 | |
| ☞ 14 | Adaptor - hose fan motor drain | 1 | 659322 | |

DENNIS

SECTION 8.2

| | | |
|---------------------------|------|-----------|
| Drive Shaft - Voith | Page | 8.1.2 - 3 |
| Drive Shaft - ZF | Page | 8.1.2 - 3 |



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|---------------|--------------|
| ☞ 1 | Drive shaft - Voith - 4 speed (930mm) | 1 | 659107-1 | P1510C-Voith |
| | Bolt | 8 | 10 MFB 112 50 | 105Nm |
| | Nut | 8 | 10 MFN 712P | |
| | Bearing kit | 2 | 659186 | |
| ☞ 2 | Drive shaft - ZF (1335mm) | 1 | 659107-2 | P1510D-ZF |
| | Bolt - axle | 8 | 10 MFB 112 50 | 105Nm |
| | Nut - axle | 8 | 10 MFN 712P | |
| | Bearing kit | 2 | 659186 | |
| 3 | Drive shaft - Voith - 5 speed (See note) | 1 | 659107-2 | P1510E-Voith |
| | Bolt | 8 | 10 MFB 112 50 | 105Nm |
| | Nut | 8 | 10 MFN 712P | |
| | Bearing kit | 2 | 659186 | |
| | Grease nipple Tee | 1 | 659651 | |
| ☞ | Note: Also used on Voith 4 Speed fitted to WPO52964 | | | |

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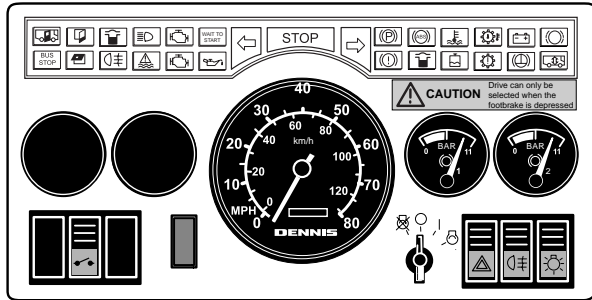
SECTION 9.1

| | | |
|---|------|-----------|
| Speedometer & Tachograph Instruement Panels | Page | 9.1.2 - 3 |
| Instrument Panel Spares | Page | 9.1.4 - 5 |

SPEEDOMETER/TACHOGRAPH PARTS MANUAL

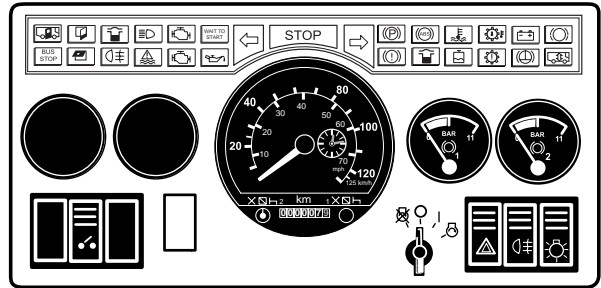
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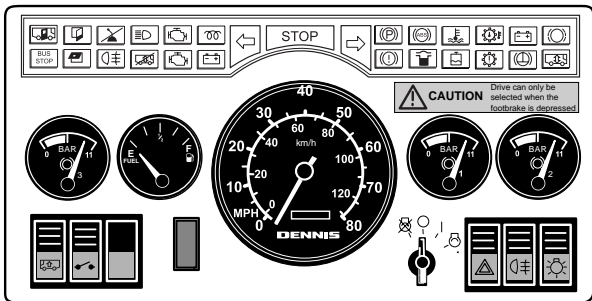


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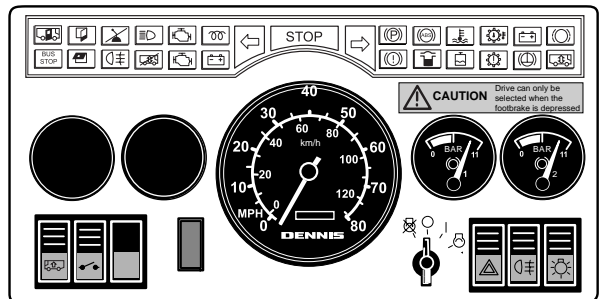


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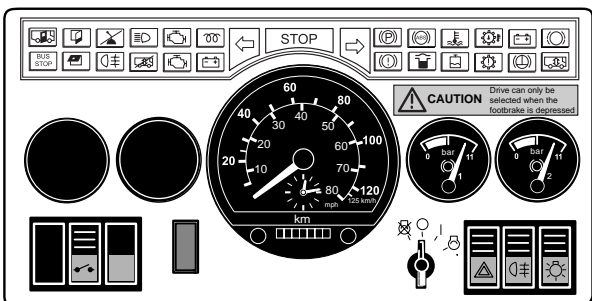
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3



660261-6

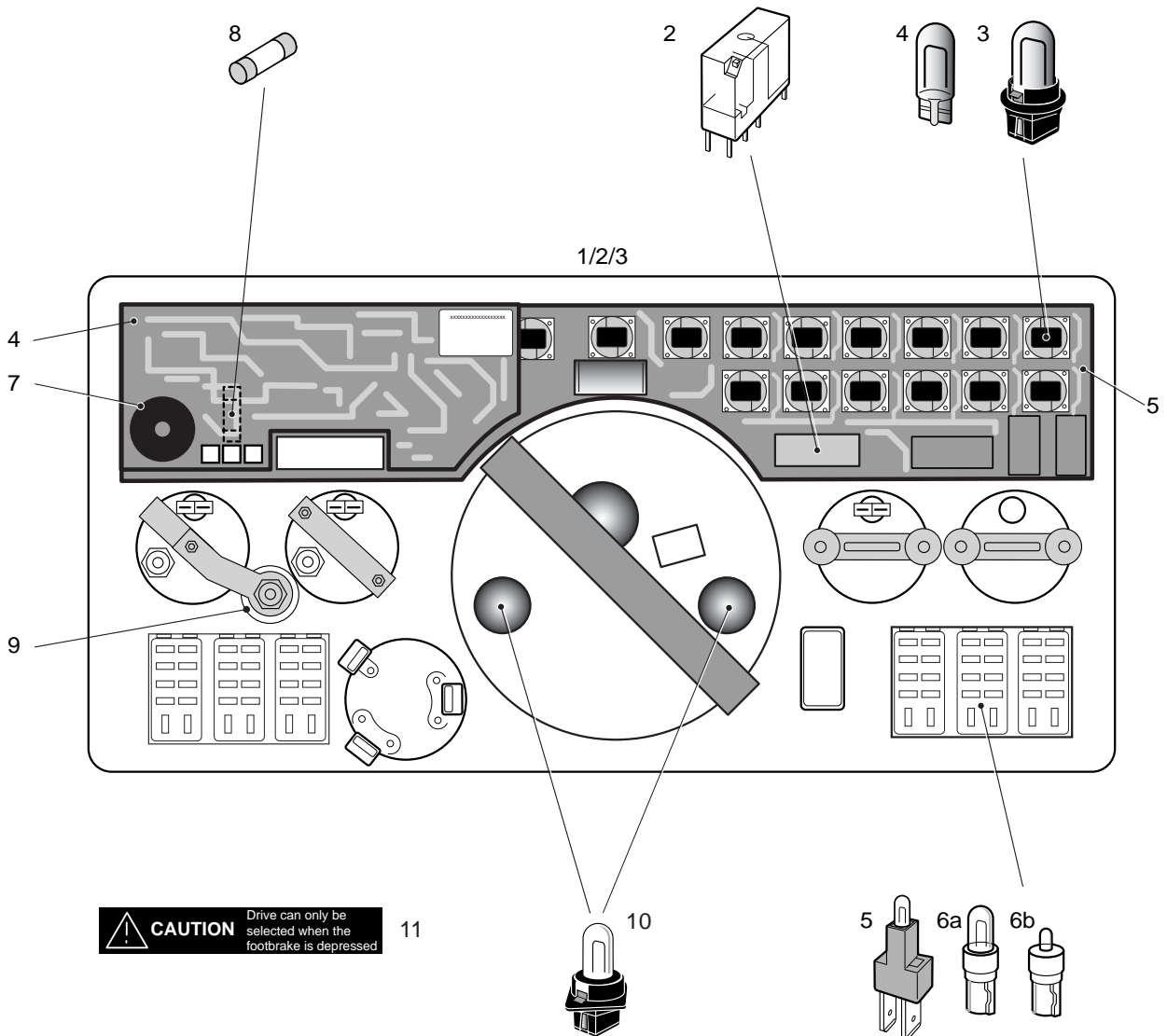
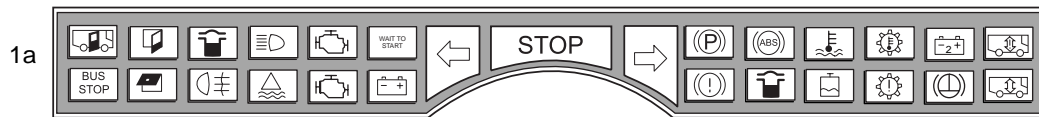
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660261-10

5

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|-----------|-------------------|
| 1a | Instrument panel assy - speedo mph - digital odometer | 1 | 657380-28 | S1511A - Voith |
| 1b | Instrument panel assy - speedo mph - digital odometer | 1 | 657380-29 | S1511B & D |
| 1c | Instrument panel assy - speedo mph - digital odometer | 1 | 657380-47 | S1511E&F.ZF/Voith |
| 2a | Instrument panel assy - dual scale tachometer | 1 | 657380-30 | TG1511B - ZF |
| 2b | Instrument panel assy - dual scale tachometer | 1 | 657380-48 | TG1511C- ZF/Voith |
| | Panels 1 - 2 above use the boards listed below | | | |
| | Warning light PCB | 1 | 659290 | |
| | Daughter - PCB | 1 | 659291 | |
| 3 | Instrument panel assy - Fuel gauge | 1 | 660261-3 | S1512E |
| 4 | Instrument panel assy - speedo mph - digital odometer | 1 | 660261-6 | S1512A&B |
| 5 | Instrument panel assy - Tacho mph - digital odometer | 1 | 660261-10 | TG1512A |
| | Panel 3, 4 & 5 above use the boards listed below | | | |
| | Warning light PCB | 1 | 660282 | |
| | Daughter - PCB | 1 | 659291 | |
| | Earth link assembly - armoured cable | 1 | 422363 | |
| | Sender | 1 | 652033 | |
| | Cable - armoured | 1 | 656229 | |
| | Cable - armoured | 1 | 658084 | |

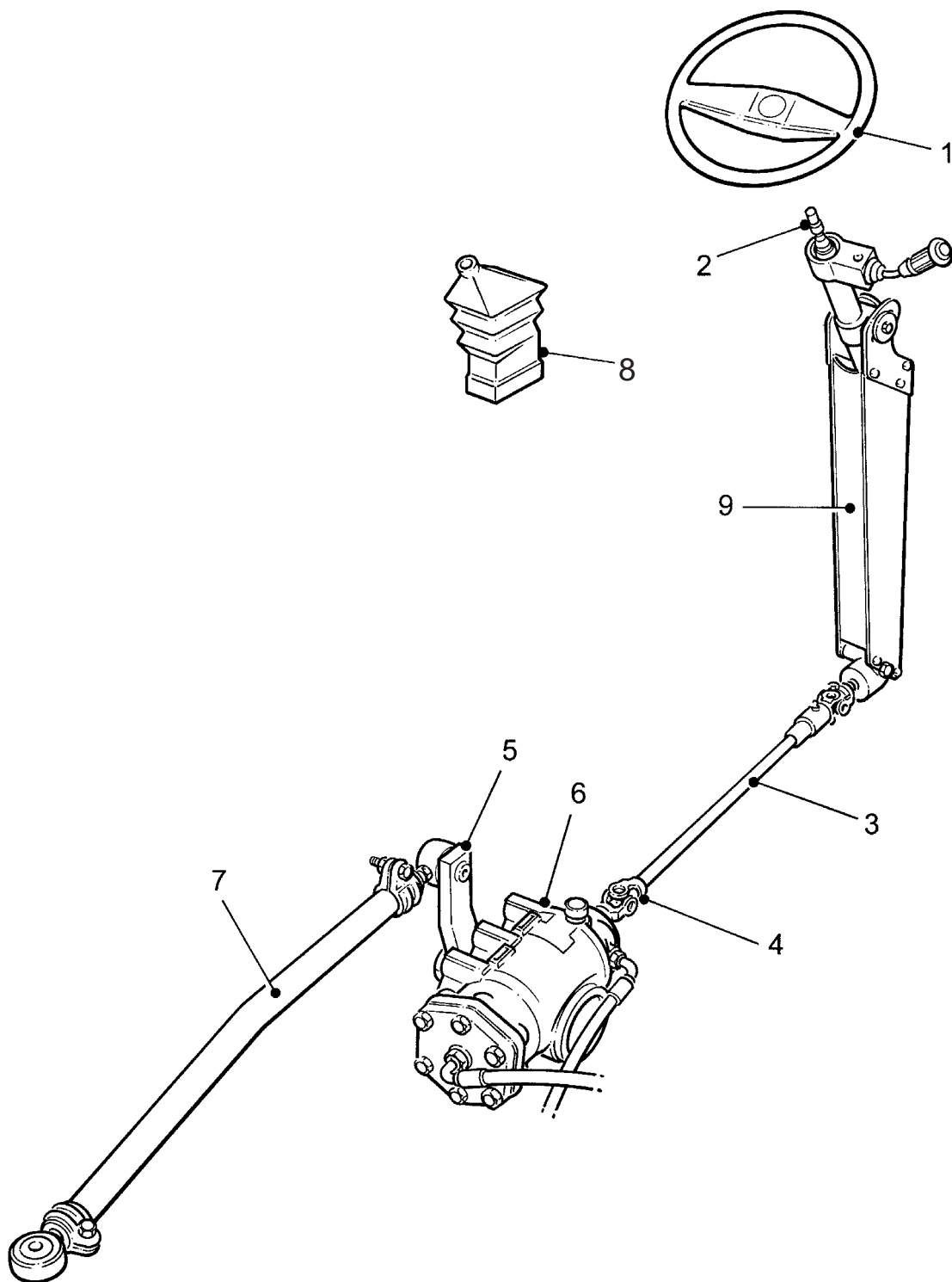


| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|----------|---------|
| | INSTRUMENT PANEL SPARES | | | |
| 1a | Mask - warning light module - "wait to start" | 1 | 659783 | |
| 1b | Mask - warning light module - "glow plug" | 1 | 660179 | |
| 2 | Relay - bulb test | 1 | 660400 | |
| | Base - relay - warning light module | 1 | 656128-2 | |
| 3 | Holder - warning lamp - c/w holder | A/R | 656442 | |
| 4 | Bulb - warning lamp/air gauges - 3w | 2 | 656444 | |
| 5 | Holder - switch - c/w holder | A/R | 660406 | |
| 6a | Bulb - switch | A/R | 660404 | |
| 6b | LED - switch (Alternative) | A/R | 660405 | |
| 7 | Buzzer | 1 | 656449 | |
| 8 | Fuse - warning light circuit board | 1 | 656450 | |
| 9 | Pressure switch assembly - c/w bracket | 1 | 656447 | |
| | Pressure switch - handbrake | 1 | 656128-3 | |
| 10 | Bulb holder - speedometer | 2 | 658178-2 | |
| | Bulb - speedometer | 2 | 656443 | |
| 11 | Label - interlock - (footbrake only) | 1 | 427926 | |
| NI | Resistor - oil pressure warning light | 1 | 659687 | SL1586 |
| NI | Harness - panel | 1 | 656446 | |
| NI | Harness - interconnection | 1 | 656448 | |
| | NI = Not Illustrated | | | |

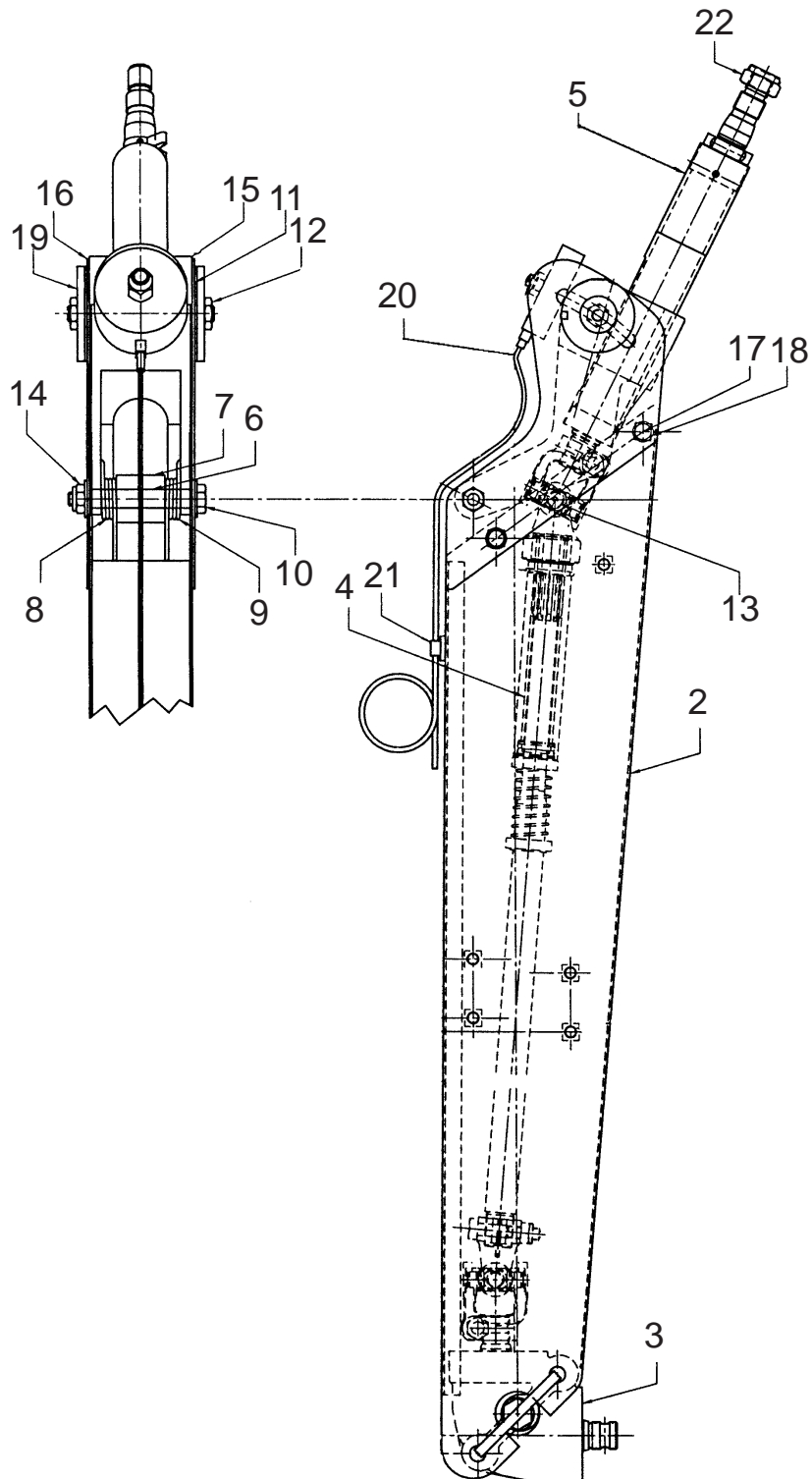
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SECTION 9.2

| | | |
|--|------|-------|
| Steering gear | Page | 9.1.3 |
| Steering column | Page | 9.1.5 |
| Steering column adjustment air diagram | Page | 9.1.7 |



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|--------------|--------------------|
| 1a | Steering wheel - Used on & up to Chassis No 1733 | 1 | 652870 | |
| | Steering wheel hub moulding | 1 | 411851 | |
| 1b | Steering wheel - Used on & after Chassis No 1734 | 1 | 427483 | |
| | Badge - steering wheel - "DENNIS" | 1 | 427923 | |
| 2 | Column nut - self locking | 1 | 657115-14 | |
| 3 | Steering shaft | 1 | 412555-5 | |
| 4 | Universal joint | 1 | 611511 | |
| | Bolt - special | 3 | 400546 | 57Nm |
| | Nut - slotted | 3 | MCN 410P | further tighten |
| | Split pin | 3 | SP5 14ST | to align split pin |
| 5 | Drop arm | 1 | 422673 | 500-550 Nm |
| | Used on and up to Chassis No : 2543 excluding 2400 | | | |
| 6a | Steering box | 1 | 657402 | SG1510B |
| | Used on and after Chassis No : 2544 onwards + 2400 | | | |
| 6b | Steering box | 1 | 659633 | SG1510D |
| | Bolt - special | 4 | 408440-5 | 543-577 Nm |
| | Bolt - forged | 1 | 421387 | 543-577 Nm |
| | Washer - spring - hardened | 4 | 659314-8 | |
| 7 | Drag link | 1 | 419801 | 210-230 Nm |
| | Split pin | 1 | SP 10 32 ST | |
| | Ball joint | 2 | 656692-1 | |
| | Tube and clamp assembly | 1 | 656692-2 | |
| | Bolt | 2 | 656692-4 | 70 - 80 Nm |
| | Nut | 2 | 656692-3 | |
| 8 | Steering column - adjustable | 1 | 658092 | |
| | Bolt | 2 | MCB 112 120P | |
| | Nut | 2 | MCN 512P | |
| | Washer - plain | 4 | 658136 | |
| | Washer - spring | 4 | WMC 8SP | |
| | "Penny" washer | 8 | 652361 | |
| 9 | Shroud - steering column - (outside harness) | 1 | 427096 | |
| | Screw | 1 | MCS 108 15P | |
| | Washer | 1 | WMA 8SP | |
| | Steering column clamp assembly | 1 | 427583 | |
| | Setscrew | 2 | MCS 105 16P | |
| | STEERING BOX SPARES | | | |
| ☞ | Dust seal - output | 1 | 657403-1 | |
| ☞ | Dust seal - inner | 1 | 657403-2 | |
| ☞ | Dust seal - output shaft | 1 | 657403-3 | |
| ☞ | Stop ring | 1 | 657403-4 | |
| ☞ | Steering limiters | 2 | 659633-2 | |

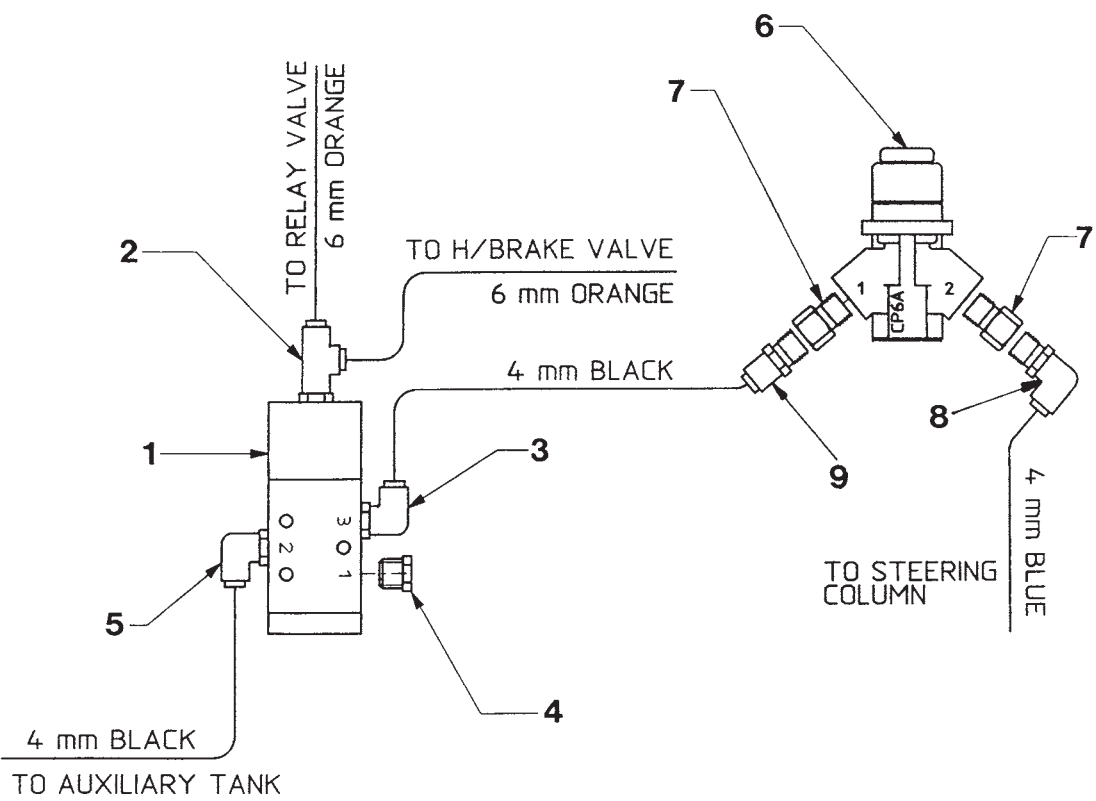


| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|-----------|---------|
| 1 | Steering column (air adjustable) | 1 | 658092 | |
| 2 | Column body assembly | 1 | 658092-1 | |
| 3 | Bevel box assembly | 1 | 657115-2 | |
| 4 | Slider assembly | 1 | 658092-3 | |
| 5 | Column and clamp | 1 | 658092-4 | |
| 6 | Not used on this application | - | - | |
| 7 | Spring support bush | 1 | 657115-6 | |
| 8 | R.H spring | 1 | 658092-6 | |
| 9 | L.H spring | 1 | 658092-7 | |
| 10 | Bolt | 1 | 658092-8 | |
| 11 | Bonded rubber washer | 1 | 658092-9 | |
| 12 | Nut - patched bolt | 1 | 657115-11 | |
| 13 | Bolt - patched | 1 | 657115-12 | |
| 14 | Nut | 1 | 657115-13 | |
| 15 | R.H end bracket | 1 | 657115-15 | |
| 16 | L.H end bracket | 1 | 657115-15 | |
| 17 | Washer | 1 | 657115-17 | |
| 18 | Screw | 1 | 657115-18 | |
| 19 | Aluminium washer | 1 | 658092-9 | |
| 20 | Tube - nylon | 1 | 657115-20 | |
| 21 | Cable clip | 1 | 658092-2 | |
| 22 | Column nut - self locking | 1 | 657115-14 | |
| ☞ | Cancelling cam | 1 | 659143-4 | |
| ☞ | Screw | 1 | 652859-18 | |

STEERING COLUMN ADJUSTMENT PARTS MANUAL

AMENDED:

UNIT NO:SG1510B&D



PARTS MANUAL STEERING COLUMN ADJUSTMENT

AMENDED:081205

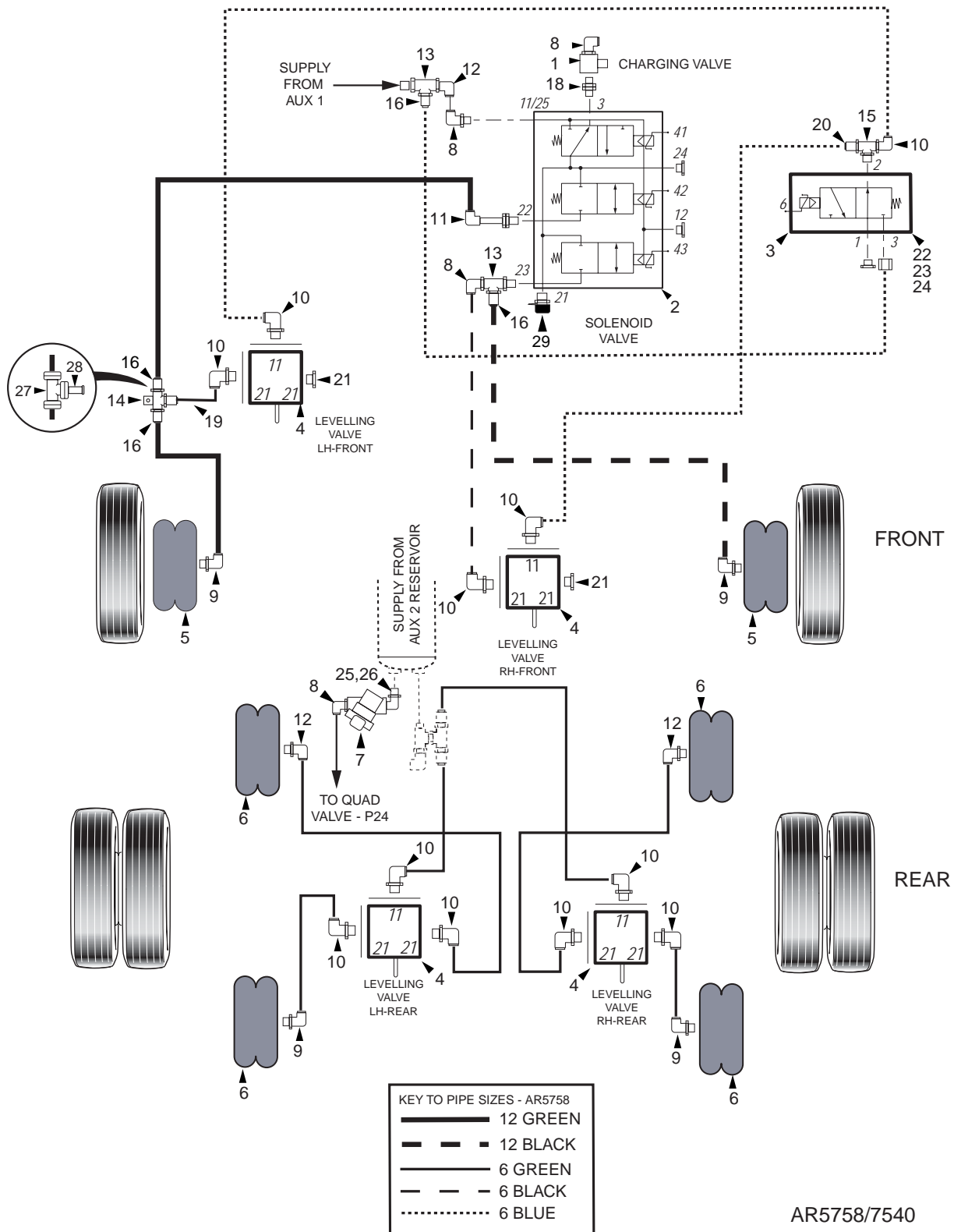
UNIT NO:SG1510B&D

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|----------|-----------|
| | Used on & up to Chassis No 3712 | | | |
| 1a | Pilot valve | 1 | 654201 | SG1510B&D |
| 2 | Tee piece | 1 | 657423-1 | |
| 3a | Elbow | 1 | 654947-4 | |
| 4a | Filter - exhaust | 1 | 654255 | |
| 5a | Elbow | | 654947-4 | |
| 6 | Valve - foot button | 1 | 657404 | |
| 7 | Adaptor | 2 | 654926 | |
| 8 | Elbow | 1 | 654947-4 | |
| 9 | Connector | 1 | 6S6413 | |
| | Used on & after Chassis No 3713 | | | |
| 1b | Pilot valve | 1 | 660764 | SG1510G |
| 4b | Filter - exhaust | 1 | 660768 | |
| 3b | Elbow | 1 | 654947-7 | |
| 5b | Elbow | 1 | 654947-7 | |
| | NOTE | | | |
| | 660764 pilot valve is larger than the previous 654201 pilot valve If replacing 654201 with 660764, new fittings will be required as 660764 has bigger inlet and outlet ports ports. | | | |

DENNIS

SECTION 10.1

| | | |
|--|-------|--------------|
| Air suspension system - front kneel | .Page | 10.1.2 - 3 |
| Air suspension system - front kneel with ferry lift | .Page | 10.1.4 - 5 |
| Air suspension system - full kneel | .Page | 10.1.6 - 7 |
| Air suspension system - full kneel with ferry lift | .Page | 10.1.8 - 9 |
| ☞ Air suspension system - full kneel with ferry lift | .Page | 10.1.10 - 11 |
| Front air suspension | .Page | 10.1.12 - 13 |
| Rear air suspension | .Page | 10.1.14 - 15 |
| Air spring assemblies | .Page | 10.1.16 - 17 |
| Levelling valve linkages | .Page | 10.1.18 - 23 |

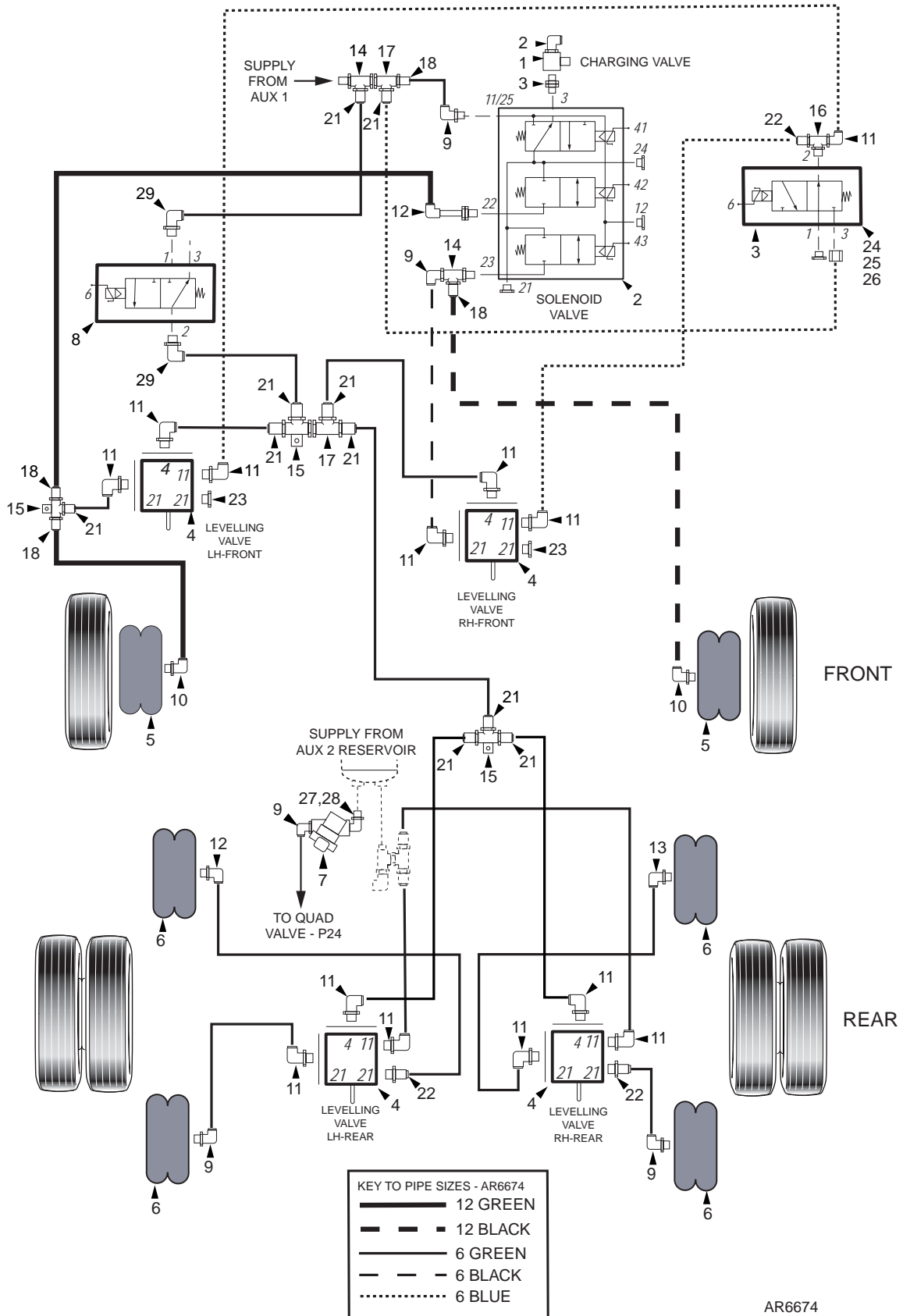


| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|----------|----------------|
| | Used on and up to Chassis No 2543 except 2400 | | | SS1510C |
| 1 | Charging valve | 1 | 655711 | |
| 2 | Solenoid valve - triple | 1 | 656606 | |
| | Test point | 1 | 656246 | |
| 3 | Solenoid - single | 1 | 656607 | |
| 4a | Levelling valve | 4 | 655687 | |
| 5 | Air spring - front (see separate list) | 2 | 656298 | |
| 6 | Air spring - rear (see separate list) | 2 | 657130 | |
| 7 | Line filter | 1 | 655710 | |
| | Filter element | 1 | 655710-1 | |
| 8 | Elbow | 3 | 654919-4 | |
| 9 | Elbow | 1 | 654919-8 | |
| 10 | Elbow | 6 | 654919-5 | |
| 11 | Elbow - extended | 1 | 654920-2 | |
| 12 | Elbow | 2 | 654919-3 | |
| 13 | Tee piece | 1 | 654923-2 | |
| 14 | Tee piece - bracketed | 1 | 654922 | |
| 15 | Tee piece | 1 | 655007 | |
| 16 | Connector | 1 | 654921-4 | |
| 17 | Connector | 1 | 654921-8 | |
| 18 | Connector | 1 | 657217 | |
| 19 | Connector | 1 | 654921-9 | |
| 20 | Connector | 1 | 654921-8 | |
| 21 | Plug | 2 | 612565 | |
| 22 | Nut | 1 | 654339 | |
| 23 | Olive | 1 | 654340 | |
| 24 | Sleeve | 1 | 655832-2 | |
| 25 | Elbow | 1 | 654924 | |
| 26 | Adaptor | 1 | 654931 | |
| 27 | Tee piece | 1 | 657920 | SS1510E |
| 28 | Reducer | 1 | 657921-1 | SS1510E |
| 29 | Test point | 1 | 656246 | SS1510E |
| | Used on and after Chassis No 2400 & 2544 onwards | | | SS1510D |
| 4b | Levelling valve - front | 2 | 660076 | |
| 4c | Levelling valve - rear | 2 | 652582 | |
| | See pages - 10.1. 14 & 15 for linkage arrangements | | | |

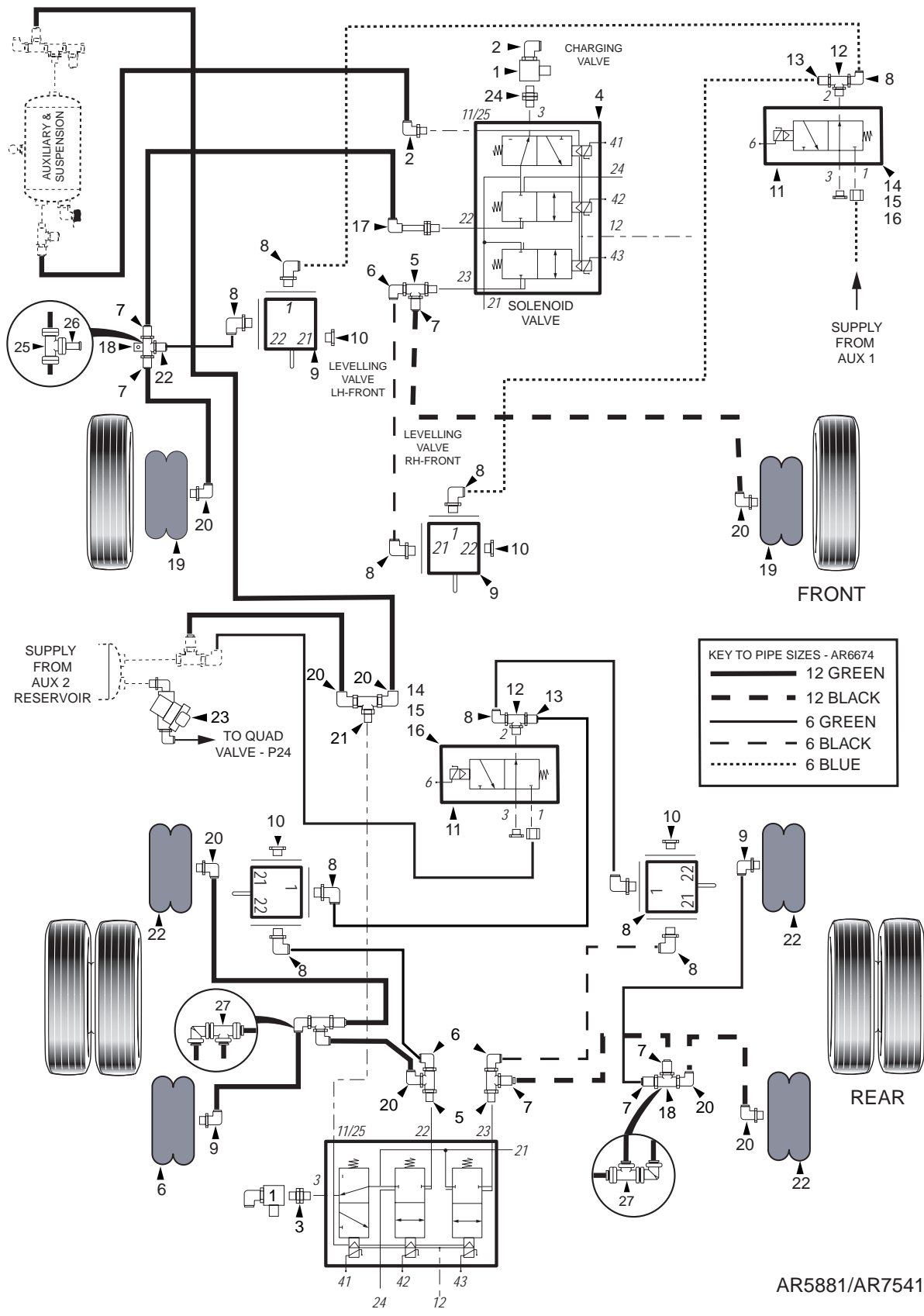
FRONT KNEEL WITH FERRY LIFT PARTS MANUAL

AMENDED:020501

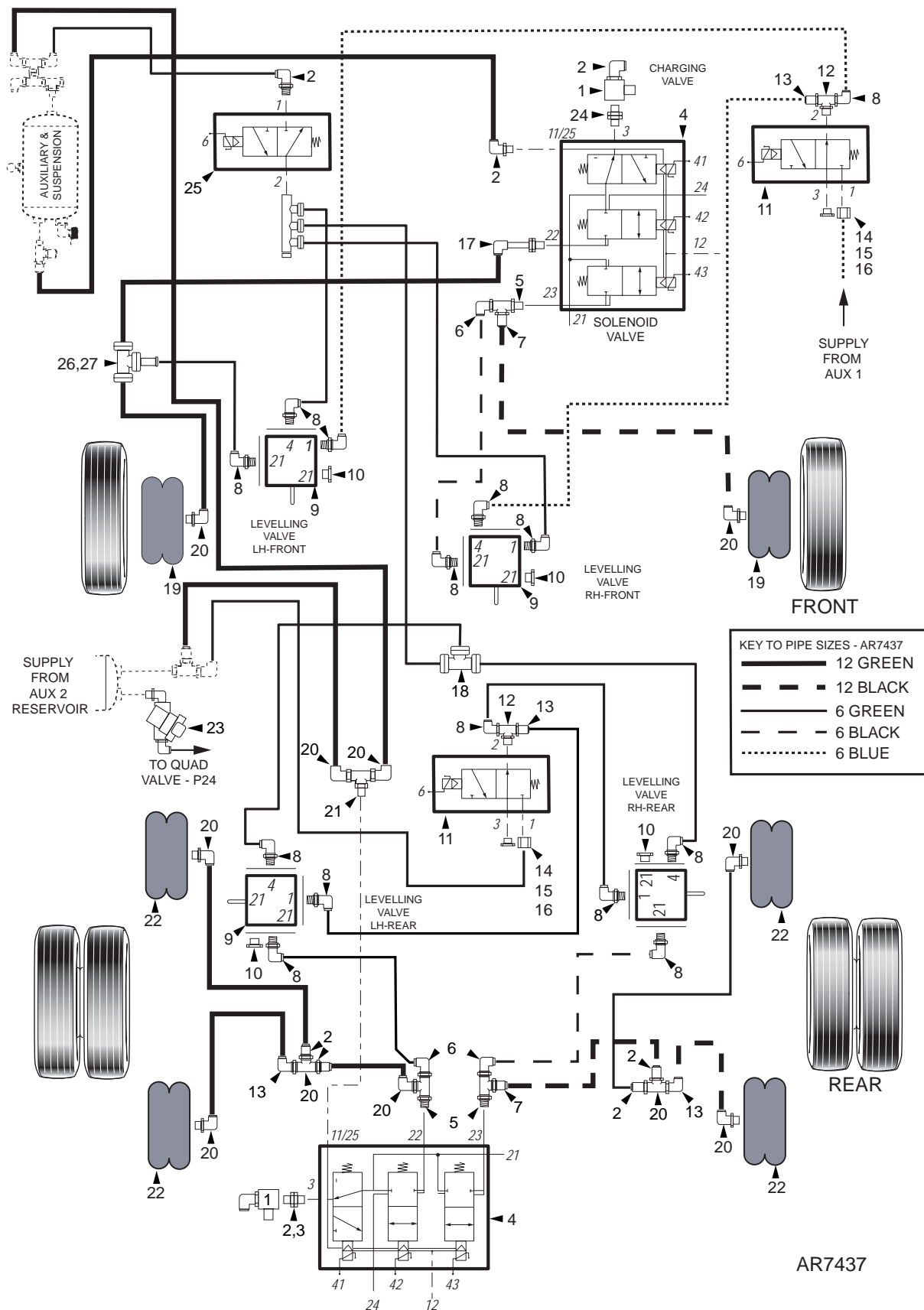
UNIT NO:SS1510B



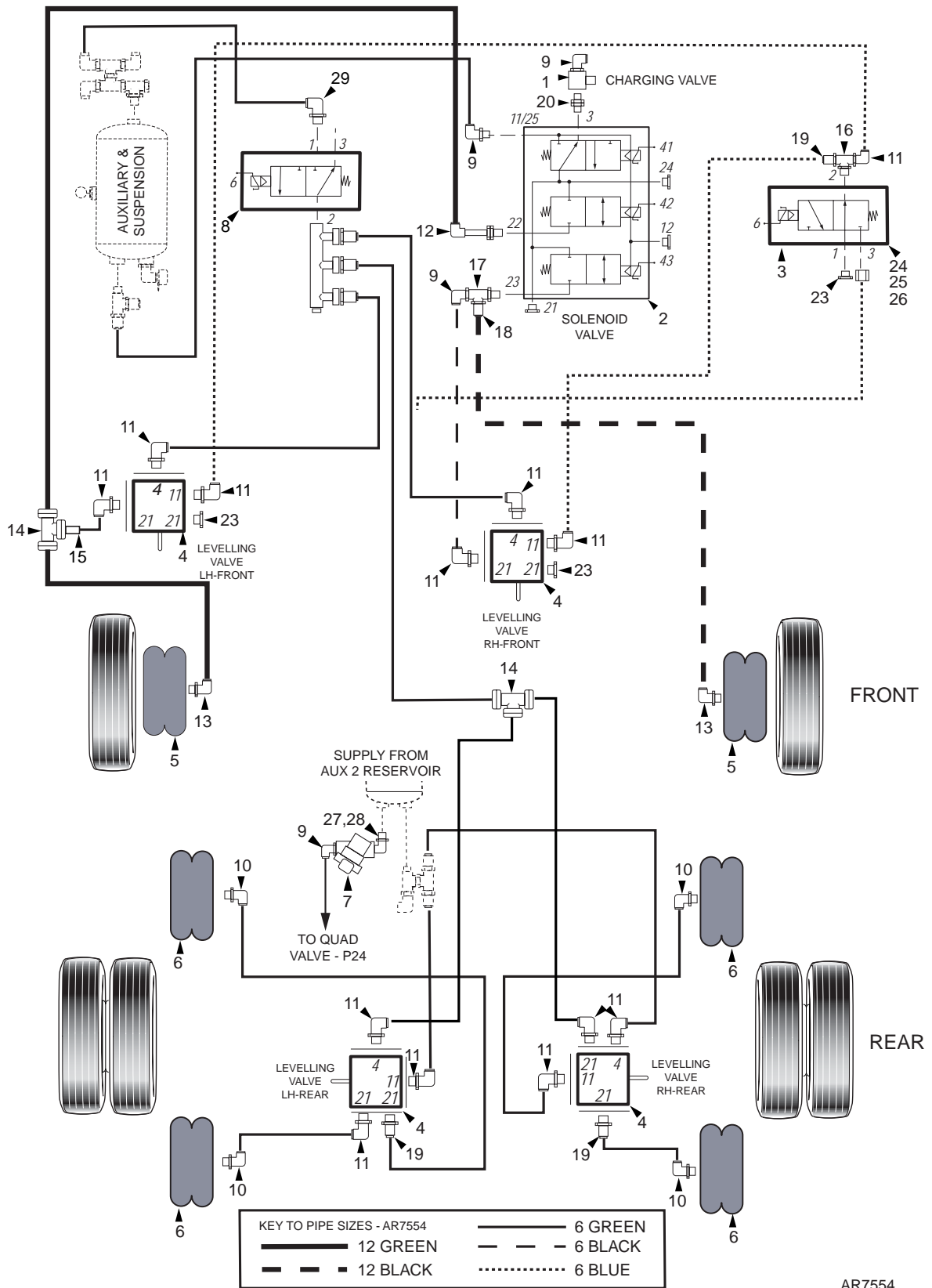
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|------------|---------|
| | Used on WPO52840 only | | | |
| 1 | Charging valve | 1 | 655711 | |
| 2 | Solenoid valve - triple | 1 | 656606 | |
| ☞ | Test point | 1 | 656246 | |
| 3 | Solenoid - single | 1 | 656607 | |
| 4 | Levelling valve | 4 | 658894 | |
| | Rod end assembly - levelling valve | 4 | 651999 | |
| | Spigot | 4 | 651999-1 | |
| | Sleeve | 4 | 651999-2 | |
| ☞ | Rod stepped - front | 4 | 421862-2 | |
| ☞ | Rod stepped - rear | 4 | 421862-3 | |
| ☞ | Bracket - levelling valve anchor | 1 | 431785 | |
| ☞ | Spacer - anchor bracket | 1 | 400622-107 | |
| 5 | Air spring - front (see separate list) | 2 | 656298 | |
| 6 | Air spring - rear (see separate list) | 2 | 657130 | |
| 7 | Line filter | 1 | 655710 | |
| | Filter element | 1 | 655710-1 | |
| 8 | Solenoid valve - single - front | 1 | 609355 | |
| 9 | Elbow | 3 | 654919-4 | |
| 10 | Elbow | 1 | 654919-8 | |
| 11 | Elbow | 9 | 654919-5 | |
| 12 | Elbow - extended | 1 | 654920-2 | |
| 13 | Elbow | 2 | 654919-3 | |
| 14 | Tee piece | 1 | 654923-2 | |
| 15 | Tee piece - bracketed | 1 | 654922 | |
| 16 | Tee piece | 1 | 655007 | |
| 17 | Tee piece | 2 | 654923-1 | |
| 18 | Connector | 1 | 654921-4 | |
| 19 | Connector | 1 | 654921-8 | |
| 20 | Connector | 1 | 657217 | |
| 21 | Connector | 1 | 654921-9 | |
| 22 | Connector | 1 | 654921-8 | |
| 23 | Plug | 2 | 612565 | |
| 24 | Nut | 1 | 654339 | |
| 25 | Olive | 1 | 654340 | |
| 26 | Sleeve | 1 | 655832-2 | |
| 27 | Elbow | 1 | 654924 | |
| 28 | Adaptor | 1 | 654931 | |
| 29 | Elbow | 2 | 656558 | |



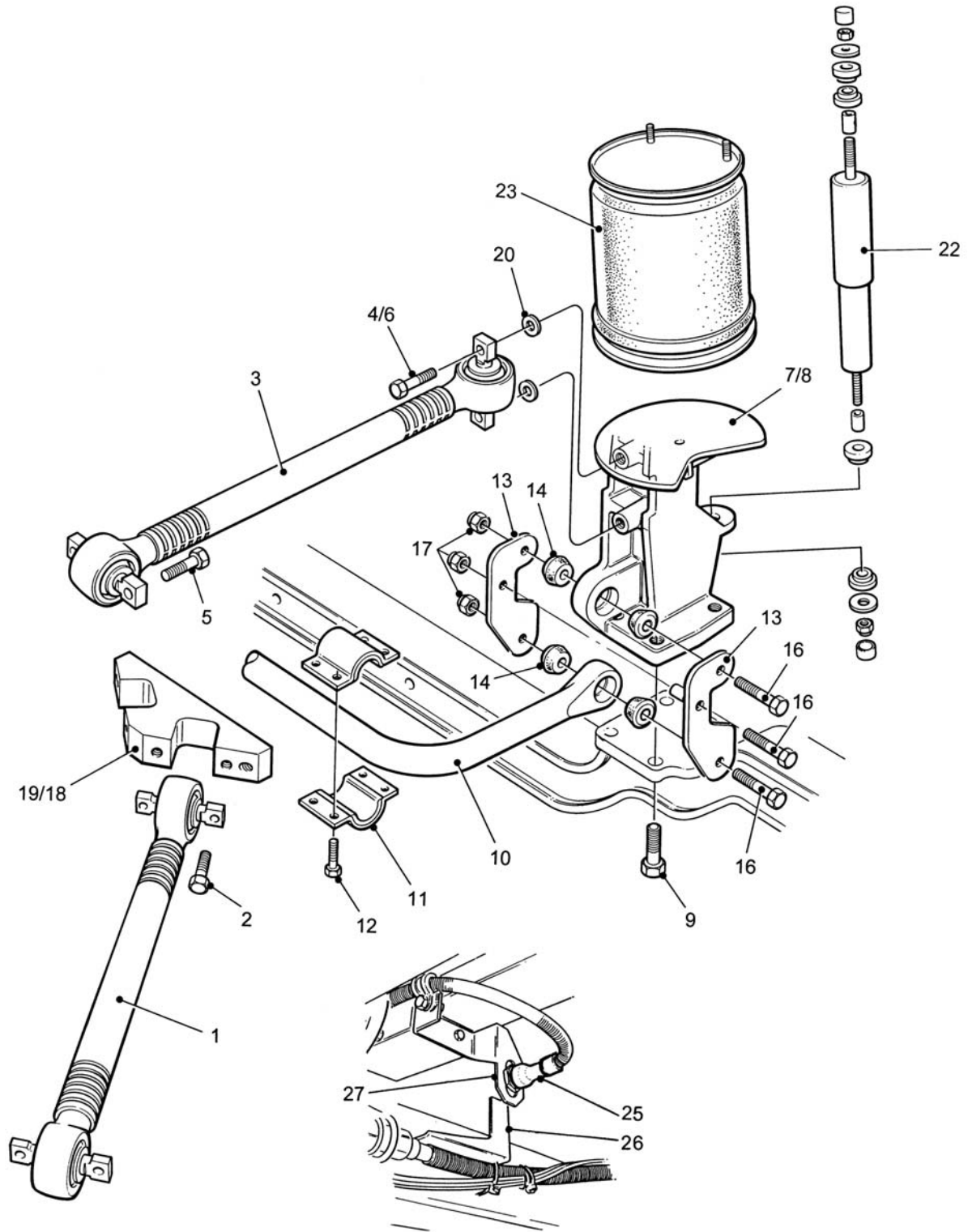
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|----------|-----------|
| 1 | Charging valve | 1 | 655711 | |
| 2 | Elbow | - | 654925 | |
| 3 | Connector | - | 654931 | |
| 4 | Solenoid valve - triple | 2 | 656606 | |
| ☞ | Test point | 1 | 656246 | |
| 5 | Tee piece | - | 654923-2 | |
| 6 | Elbow | - | 654919-8 | |
| 7 | Connector | - | 654921-4 | |
| 8 | Elbow | - | 654919-5 | |
| 9 | Levelling valve | 4 | 655687 | |
| 10 | Plug | - | 612565 | |
| 11 | Solenoid | 2 | 656607 | |
| 12 | Tee piece | - | 655007 | |
| 13 | Connector | - | 654921-8 | |
| 14 | Nut | - | 654339 | |
| 15 | Olive | - | 654340 | |
| 16 | Sleeve | - | 655832-2 | |
| 17 | Elbow - extended | - | 654920-2 | |
| 18 | Tee piece - bracketed | - | 654922 | |
| 19 | Front air spring assembly (see separate list) | 2 | 656298 | |
| 20 | Elbow | - | 654919-3 | |
| 21 | Tee piece | 2 | 655017 | |
| 22 | Rear air spring assembly (see separate list) | 4 | 657130 | |
| 23 | Line filter | 1 | 655710 | |
| | Filter - element | 1 | 655710-1 | |
| 24 | Connector | - | 657217 | |
| ☞ 25 | Tee piece | 1 | 657920 | SS1511E&F |
| ☞ 26 | Reducer | 1 | 65921-1 | SS1511E&F |
| ☞ 27 | "F" piece | 1 | 660222 | SS1511E&F |
| | Bracket - levelling valve anchor - L.H | 1 | 431785 | |
| | Bracket - levelling valve anchor - R.H | 1 | 431784 | |



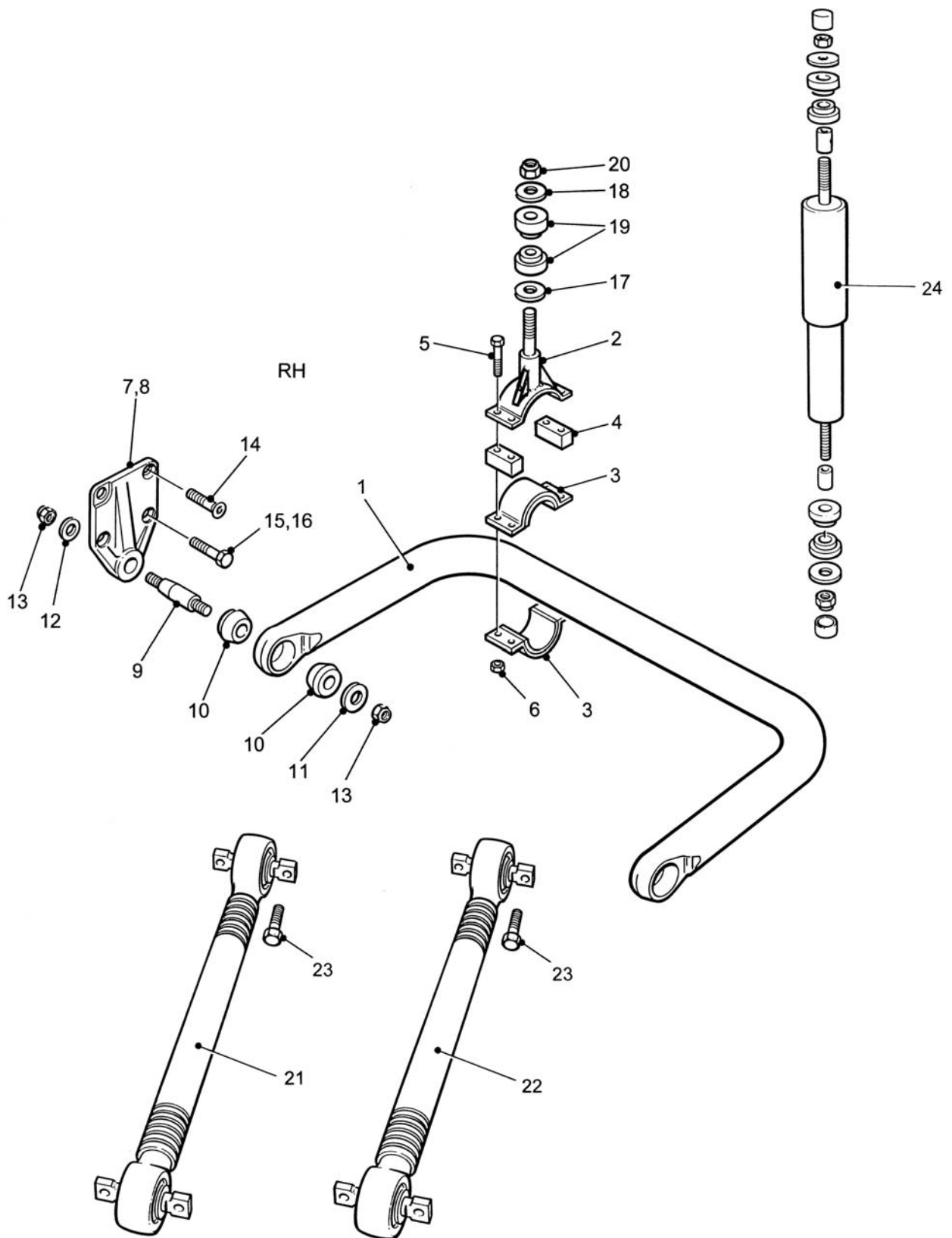
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|--|---------|----------|---------|
| 1 | Charging valve | 1 | 655711 | |
| 2 | Elbow | 3 | 656919-4 | |
| 3 | Connector | 1 | 654931 | |
| 4 | Solenoid valve - triple | 1 | 656606 | |
| ☞ | Test point | 1 | 656246 | |
| 5 | Tee piece | 3 | 654923-2 | |
| 6 | Elbow | 3 | 654919-8 | |
| 7 | Connector | 2 | 654921-4 | |
| 8 | Elbow | 12 | 654919-5 | |
| 9 | Levelling valve | 4 | 658894 | |
| 10 | Plug | 4 | 612565 | |
| 11 | Solenoid valve - single | 2 | 656607 | |
| 12 | Tee piece | 2 | 655007 | |
| 13 | Connector | 2 | 654921-8 | |
| 14 | Nut | 2 | 654339 | |
| 15 | Olive | 2 | 654340 | |
| 16 | Sleeve | 2 | 655832-2 | |
| 17 | Elbow - extended | 2 | 654920-2 | |
| 18 | Tee piece | 1 | 656657 | |
| 19 | Front air spring assembly (see separate list) | 2 | 656298 | |
| 20 | Elbow | 6 | 654919-3 | |
| 21 | Tee piece - bracketed | 2 | 655017 | |
| 22 | Rear air spring assembly (see separate list) | 4 | 657130 | |
| 23 | Line filter | 1 | 655710 | |
| | Filter - element | 1 | 655710-1 | |
| 24 | Connector | 1 | 657217 | |
| 25 | Solenoid valve | 1 | 609355 | |
| 26 | Tee piece | 1 | 657920 | |
| 27 | Reducer | 1 | 657921-1 | |



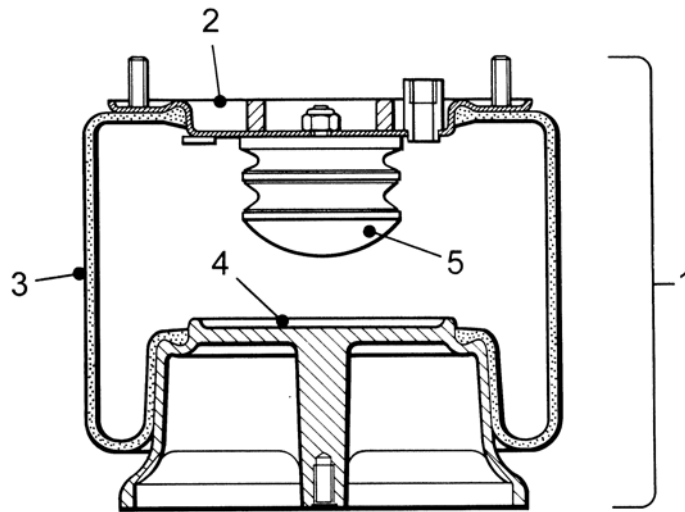
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|----------|---------|
| | Used on WPO 52898 only | | | |
| 1 | Charging valve | 1 | 655711 | |
| 2 | Solenoid valve - triple | 1 | 656606 | |
| ☞ | Test point | 1 | 656246 | |
| 3 | Solenoid - single | 1 | 656607 | |
| 4 | Levelling valve | 4 | 658894 | |
| 5 | Air spring - front (see separate list) | 2 | 656298 | |
| 6 | Air spring - rear (see separate list) | 4 | 657130 | |
| 7 | Line filter | 1 | 655710 | |
| | Filter element | 1 | 655710-1 | |
| 8 | Solenoid valve - single - front | 1 | 609355 | |
| 9 | Elbow | 3 | 654919-4 | |
| 10 | Elbow | 1 | 654919-8 | |
| 11 | Elbow | 9 | 654919-5 | |
| 12 | Elbow - extended | 1 | 654920-2 | |
| 13 | Elbow | 2 | 654919-3 | |
| 14 | Tee piece | 2 | 657920 | |
| 15 | Reducer - tee piece | 1 | 657921-1 | |
| 16 | Tee piece | 1 | 655007 | |
| 17 | Tee piece | 1 | 654923-2 | |
| 18 | Connector | 1 | 654921-4 | |
| 19 | Connector | 1 | 654921-8 | |
| 20 | Connector | 1 | 657217 | |
| 21 | Elbow | 1 | 656658 | |
| 22 | Connector | 1 | 654921-8 | |
| 23 | Plug | 2 | 612565 | |
| 24 | Nut | 1 | 654339 | |
| 25 | Olive | 1 | 654340 | |
| 26 | Sleeve | 1 | 655832-2 | |
| | The rear levelling valve arrangement necessitates a change the tailpipe mountings for WPO52898 only | | | |
| | Bracket - tailpipe support | 1 | 437127 | |
| | Bracket - bobbin mounting | 1 | 437129 | |



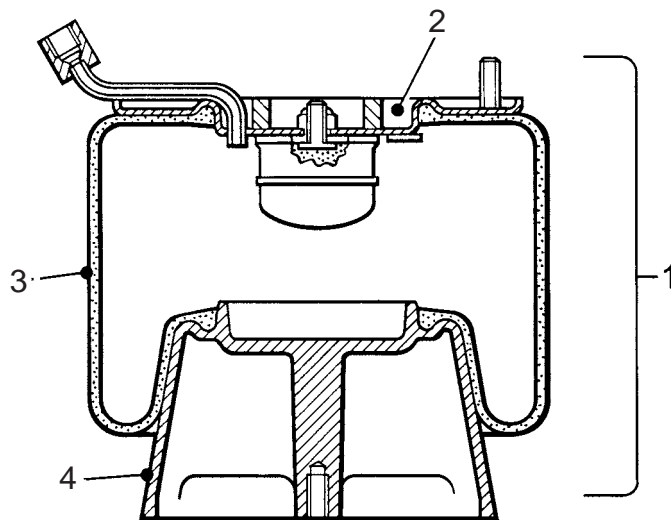
| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|-------------|---|---------|-----------------|----------------|
| | For Torque settings see Service Manual Section 10 | | | |
| 1 | Torque arm - lower | 2 | 419799 | |
| | Repair kit - lower torque arm | 4 | 657691 | |
| 2 | Bolt | 8 | 10 MCB 118 50D | |
| 3 | Torque arm - upper - disc brakes | 2 | 428111 | |
| | Repair kit - upper torque arm | 4 | 651697-1 | |
| 4 | Bolt | 4 | 10 MCB 116 160D | |
| 5 | Bolt | 2 | 10 MCB 116 55D | |
| | Screw - Cap head | 2 | MCS 3616 55 | |
| 6 | Nut special | 4 | 10 MCN 516P | |
| 7 | Tower- LH - disc brakes | 1 | 427970 | |
| 8 | Tower - RH - disc brakes | 1 | 427971 | |
| 9a | Screw (See Note) | 4 | 10 MCS 120 45D | |
| | Jacking point - | 2 | 432131 | |
| 9b | Screw - front and rear inner | 2 | 10 MCS 120 90D | |
| 9c | Capscrew - rear outer | 2 | MCS 3620 90 | |
| 10 | Anti roll bar - disc brakes | 1 | 428107 | |
| 11 | Bush - Anti roll bar | 4 | 434216 | Fit as pairs |
| 12 | Bolt-bush to frame | 8 | MCB 112 35P | |
| 13a | Link plate - A.R.B. mounting - bush | 2 | 425531 | |
| 13b | Link plate - A.R.B. mounting | 2 | 425529 | |
| 14 | Mounting rubber - Anti roll bar | 8 | 438257 | |
| 15 | Not used on this application | - | - | |
| 16 | Bolt | 6 | 10 MCB 116 90D | |
| 17 | Nut | 6 | 10 MCB 516 | |
| 18 | Block - arm mounting | 1 | 433915 | |
| 19 | Bolt | 4 | 10 MCB 120 140D | |
| 20 | Shim - link- top | 8 | WMA 16SP | |
| 21 | - | - | - | |
| 22 | Damper - c/w mounting kit | 2 | 657610 | DF 1510A |
| | Retainer | 3 | 657696-3 | |
| | Rubber mounting c/w sleeve | 2 | 657610-1 | |
| | Lock nut | 4 | 657696-4 | |
| 23 | Air spring assembly (see separate list) | 2 | 656298 | |
| | Bolt | 2 | MCB 112 55P | |
| | Spring washer | 2 | WMC12SP | |
| | Nut | 4 | MCN 710P | |
| 24 | Bracket - jack location | 2 | 432131 | |
| 25 | Proximity switch | 1 | 657505 | |
| | Cable proximity switch | 1 | 424998 | |
| | Washer | 4 | WMG18SP | |
| 26a | Plate - sensor flag - 55mm "flag" | 1 | 421488 | |
| 26b | Plate - sensor flag - 35mm "flag" | 1 | 434586 | |
| 27 | Bracket - proximity switch | 1 | 421487 | |
| | Spacer | 2 | 400622-98 | |
| NOTE | Used on and after Chassis No 2400 & 2544 onwards | | | SF1511B |
| 9d | Screw | 8 | 10 MCS 120 40D | |



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|---------------|-----------|
| | For Torque settings see Service Manual Section 10 | | | |
| 1 | Anti roll bar | 1 | 422590 | |
| 2 | Link - Anti roll bar | 2 | 423725 | |
| 3 | Bearing - Anti roll bar | 4 | 434214 | |
| 4 | Spacer - bearing to link | 4 | 423738 | |
| 5 | Bolt | 8 | MCB 112 55P | |
| 6 | Nut | 8 | MCN 512P | |
| 7 | Mounting bracket - Anti roll bar - RH | 1 | 422608 | |
| 8 | Mounting bracket - Anti roll bar - LH | 1 | 422607 | |
| 9 | Pin | 2 | 425375 | 230-260Nm |
| 10 | Mounting rubber - roll bar eye | 4 | 658973 | |
| 11 | Washer - inner | 2 | 423615 | |
| 12 | Washer- outer | 2 | WMA 16SP | |
| 13 | Nut-self locking | 4 | MCN 516P | |
| 14 | Screw- countersunk | 2 | MCS 3316 30P | |
| 15 | Bolt | 2 | MC511625P | |
| 16 | Bolt | 4 | MCS 116 30P | |
| | Loctite HO-242 (apply to 14, 15 & 16) | A/R | 606152 | |
| 17 | Washer - bottom | 2 | 426001 | |
| 18 | Washer - top | 2 | 426000 | |
| 19 | Mounting rubber - link | 4 | 650995 | |
| 20 | Nut - self locking | 2 | MCN 520P | |
| ☞21b | Control arm - upper | 2 | 656995-80 | (576mm) |
| ☞22b | Control arm - lower | 2 | 656995-81 | (664mm) |
| ☞23 | Screw - torque arm to frame / axle casing | 8 | 10MCS-118-55D | |
| 24 | Damper- c/w mounting kit | 4 | 657611 | DR1510A |
| | Retainer | 3 | 657696-3 | |
| | Rubber mounting c/w sleeve | 2 | 657610-1 | |
| | Lock nut | 4 | 657696-4 | |
| | Used on and after Chassis No 2729 - lightweight | | | |
| 21b | Control arm - upper | 2 | 659921-22 | (576 mm) |
| 22b | Control arm - lower | 2 | 659921-23 | (664 mm) |
| | Lightweight axles are identifiable as not having separate bolt on console for torque arm mountings | | | |



Front Axle



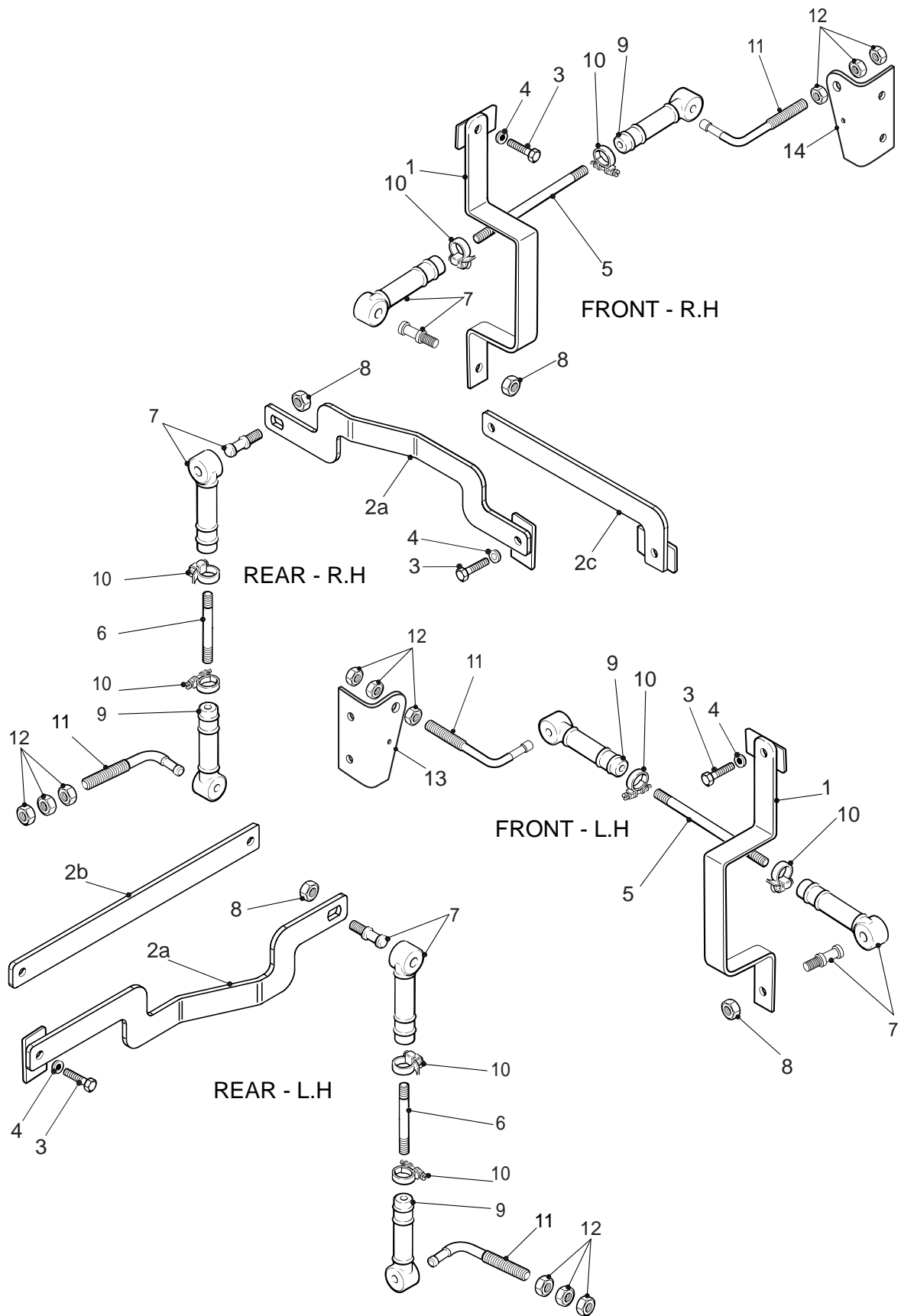
Rear Axle

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|------------------------------|------------------------------------|---------|-----------|---------|
| FRONT AXLE AIR SPRING | | | | |
| 1 | Air spring assembly - front - | 2 | 656298 | |
| 2 | Top plate assembly | 2 | 656298-1 | 17-20Nm |
| 3 | Diaphragm | 2 | 656298-2 | |
| 4 | Piston | 2 | 656298-3 | 75Nm |
| 5 | Bump stop | 2 | 656298-4 | |
| REAR AXLE AIR SPRING | | | | |
| 1 | Air spring assembly - rear - LH/RH | 2 | 657130 | |
| 2 | Top plate assembly | 2 | 657130-1 | 17-20Nm |
| 3 | Diaphragm | 2 | 656299-2 | |
| 4 | Piston | 2 | 651461-13 | 75Nm |

LEVELLING VALVE LINKAGES PARTS MANUAL

AMENDED:171202

UNIT NO:SS1511D&E

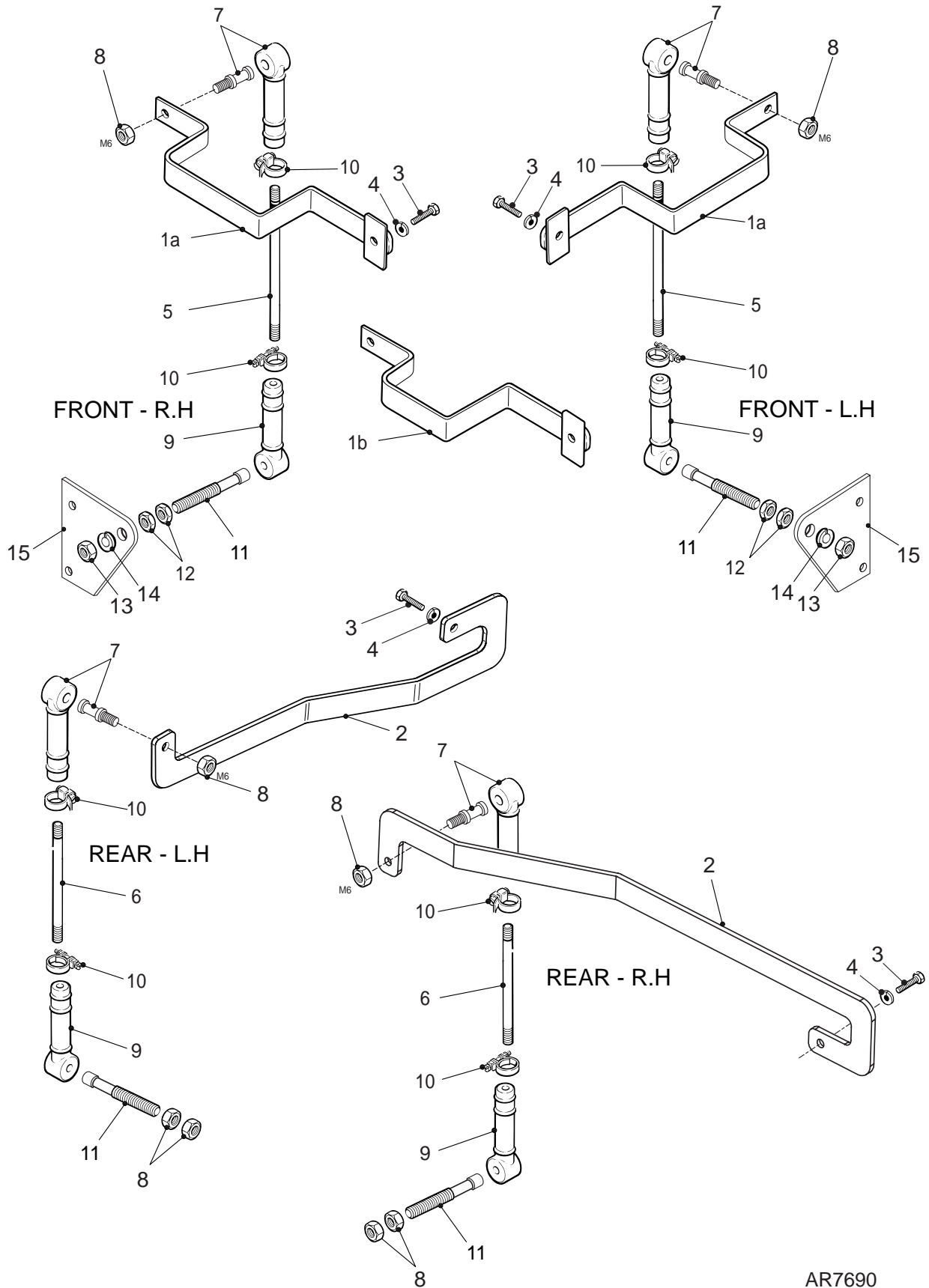


| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|-------------|----------------|
| | FULL KNEEL ONLY | | | SS1511D |
| 1a | Control arm - front - full kneel | 1 | 436179 | |
| 2a | Control arm - rear - full kneel | 1 | 436272 | |
| 3 | Screw - control arm | 4 | MCS 108 16P | |
| 4 | Washer - spring | 4 | WMC 8SP | |
| 5a | Linkage rod - front - full kneel | 2 | 419951-3 | |
| 6a | Linkage rod - rear - full kneel | 2 | 419951-5 | |
| ☞ 7 | Pressure plate - inline - c/w pin and clip | 2 | 659694 | |
| 8 | Nut | 4 | MCN 706P | |
| ☞ 9 | Pressure plate - inline - c/w clip | 2 | 660316 | |
| 10 | Clip | 8 | 656691-2 | |
| 11a | Angle - pin - early vehicles | 4 | 655691-3 | |
| 11b | Straight pin - later vehicles | 4 | 437478 | |
| 12 | Nut | 12 | 655691-4 | |
| 13 | Bracket - anchor - front levelling valve - LH | 1 | 431785 | |
| 14 | Bracket - anchor - front levelling valve - RH | 1 | 431784 | |
| | Screw | 4 | MCS 106 16P | |
| | Washer - spring | 4 | WMC 6SP | |
| | FULL KNEEL & FERRY LIFT ONLY | | | SS1511E |
| 1b | Control arm - front | 1 | 436179 | |
| 2b | Control arm - rear - L.H | 1 | 430112 | |
| 2c | Control arm - rear - R.H | 1 | 436672 | |
| 5b | Linkage rod - front | 2 | 421862-2 | |
| 6b | Linkage rod - rear - L.H | 2 | 419951-1 | |
| 6c | Linkage rod - rear - R.H | 2 | 419951-6 | |
| | FRONT KNEEL & FERRY LIFT ONLY - WPO52898 | | | SS1510F |
| 1b | Control arm - front | 2 | 437072 | |
| 2b | Control arm - rear - L.H | 1 | 430112 | |
| 2c | Control arm - rear - R.H | 1 | 436672 | |
| 5c | Linkage rod - front | 2 | 419951-3 | |
| 6d | Linkage rod - rear | 2 | 419951-4 | |
| | Linkage assembly - comprising items 9, 10, 11 & 12 | 1 | 655691-5 | |

LEVELLING VALVE LINKAGES PARTS MANUAL

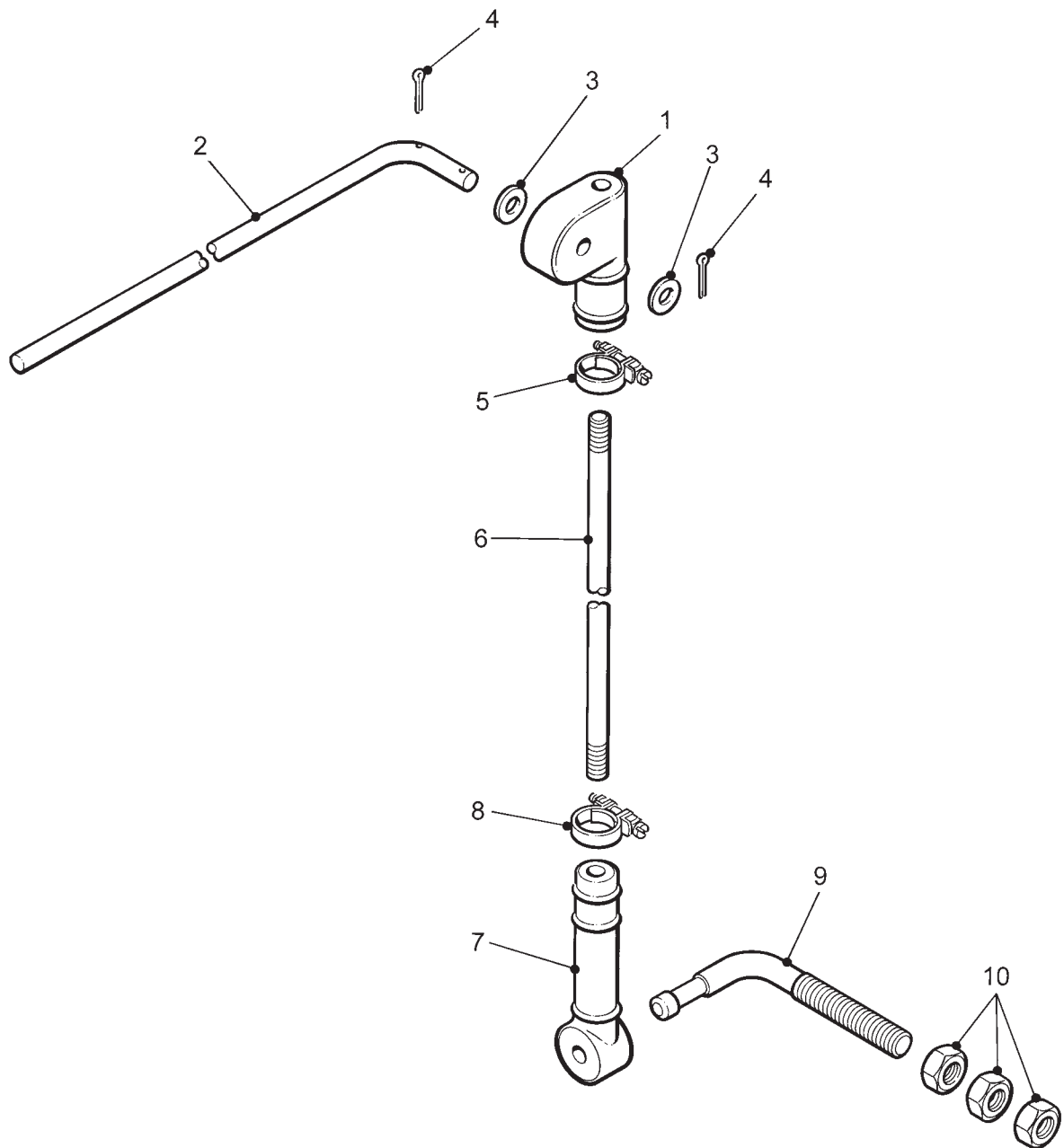
AMENDED:130504

UNIT NO:SS1510E&G. SS1511F&G



AR7690

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|-------------|-------------------------|
| | Used on & after Chassis No 3398 (inc 3396) | | | |
| | FRONT KNEEL & FULL KNEEL ONLY | | | SS1510E/ SS1511F |
| 1a | Control arm - <i>front</i> - | 2 | 436179 | |
| 2 | Control arm - <i>rear</i> - | 2 | 437470 | |
| 3 | Screw - control arm | 4 | MCS 108 16P | |
| 4 | Washer - spring | 4 | WMC 8SP | |
| 5a | Linkage rod - <i>front</i> | 2 | 419951-4 | |
| 6b | Linkage rod - <i>rear</i> | 2 | 419951-6 | |
| 7 | Pressure plate - inline - c/w pin and clip | 2 | 659694 | M6 |
| 8 | Nut | 4 | MCN 506P | |
| 9 | Pressure plate - inline- c/w clip | 2 | 660316 | |
| 10 | Clip | 8 | 656691-2 | |
| 11 | Pivot pin | 4 | 437478 | M8 |
| 12 | Nut - plain - half | 4 | MCN 208P | |
| 13 | Nut - plain - full | 6 | MCN 108P | |
| 14 | Washer - spring | 4 | WMC 8SP | |
| 15 | Bracket - anchor - front levelling valve - RH | 1 | 438400 | |
| | Screw | 4 | MCS 106 16P | |
| | Washer - spring | 4 | WMC 6SP | |
| | FRONT AND FULL KNEEL WITH FERRY LIFT | | | SS1510G/ SS1511G |
| 1b | Control arm - <i>front</i> - | 2 | 437072 | |
| 5a | Linkage rod - <i>front</i> | 2 | 419951-4 | |
| 6a | Linkage rod - <i>rear</i> | 2 | 419951-6 | |
| | RUBBER MOUNTING - FERRY LIFT ONLY | | | |
| ☞ | Rubber mounting - exhaust silencer | 4 | 658890 | SS1510G/ SS1511G |



| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|----------|-----------------------------------|
| | FRONT KNEEL OR FULL KNEEL | | | SS1511B&C. SS1510C |
| 1 | Pressure plate - offset | 2 | 655687-1 | |
| 2 | Control rod | 2 | 429587 | |
| 3 | Washer | 2 | 655687-3 | |
| 4 | Split pin | 2 | 655687-4 | |
| 5 | Clip | 1 | 655691-2 | |
| 6a | Linkage rod - front | 2 | 419951-3 | |
| 6b | Linkage rod - rear | 2 | 419951-3 | |
| 7 | Pressure plate - inline | 2 | 655691-1 | |
| 8 | Clip | 4 | 655691-2 | |
| 9 | Angle | 2 | 655691-3 | |
| 10 | Nut | 4 | 655691-4 | |
| | FRONT KNEEL WITH FERRY LIFT - WPO52480 | | | SS1510B |
| 6a | Linkage rod - front | 2 | 421862-3 | |
| 6b | Linkage rod - rear | 1 | 421862-2 | |
| | Used on and after Chassis No 2400 & 2544 onwards | | | SS1510D |
| | FRONT KNEEL | | | |
| 6e | Linkage rod - rear | 2 | 419951-1 | |
| | Linkage assembly - comprising items 1,2,3,4 & 5 | 1 | 655687-5 | |
| | Linkage assembly - comprising items 7,8,9 & 10 | 1 | 655691-5 | |

DENNIS

SECTION 10.2

Wheels and TyresPage 10.2.2 - 3

| ITEM NO | DESCRIPTION | NO USED | PART NO | REMARKS |
|---------|---|---------|---------------------|----------------|
| 1 | Wheel and tyre assembly - Michelin XZU Wheel rim | 6 6 | 657297-3 650687 | W1510A |
| 2 | Wheel and tyre assembly - Michelin XZU Wheel rim | 6 6 | 657297-15 650687 | W1510B |
| 3 | Wheel and tyre assembly - Michelin XZU+ Wheel rim | 6 6 | 657297-17 650687 | W1510C |
| 4 | Wheel and tyre assembly - Blue - Michelin XZU+ Wheel rim | 6 6 | 657297-18 650687 | W1510D |
| 5 | Wheel and tyre assembly - Dunlop SP741 Wheel rim | 6 6 | 657297-19 650687 | W1510E |
| | WHEEL EMBELISHERS Embelisher | 2 | 660092 | AL512-1 |

