Comeng

SERVICE PARTS CATALOGUE

INSPECTION CARS

SIX MAN - SERIAL NOS. 945 - 951

EIGHT MAN - SERIAL NOS. 952 - 955

Comeng (South Australia)

A DIVISION OF THE ANI CORPORATION LIMITED

(Incorporated in New South Wales)

P.O. BOX 64, BLAIR ATHOL, S.A. 5084

Office and Factory: Cavan Road, Dry Creek, SOUTH AUSTRALIA

TELEPHONE: (08) 262 6111 TELEX: AA 88285 Cables: "COMENG" ADELAIDE

DESIGN AND MANUFACTURING ENGINEERS

Comeng (South Australia)

A DIVISION OF THE ANI CORPORATION LIMITED

(Incorporated in New South Wales)

No. 3143

INSPECTION CAR - SIX & EIGHT MAN

LIST OF CONTENTS

OPERATION INSTRUCTIONS	3144
LUBRICATION AND SERVICE DETAILS	3145
ELECTRICAL CIRCUIT	3146
HYDRAULIC CIRCUIT	3147
ENGINE COMPONENTS	3148
INSTRUMENTS	3149
ELECTRICAL COMPONENTS	3150
MOTION CONTROL GROUP	3151
AXLE & WHEEL GROUP - DRIVE	3152
AXLE & WHEEL GROUP - IDLER	3153
SUSPENSION GROUP	3154
HYDRAULIC COMPONENTS	3155
CABIN COMPONENTS	3156
HYDRAULIC CYLINDER - TURNTABLE (HR Series)	C341

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OPERATION INSTRUCTIONS

Controls - Operators Position

There are three basic controls which affect the operation of the machine.

a) Throttle Control - this determines the engine speed. To increase engine rpm, twist the control knob anticlockwise. To decrease engine rpm, twist the control knob clockwise. In normal operations the operator will adjust the engine rpm to idle before stopping the engine then pushing the control in to stop. But in emergency conditions the engine can be stopped by simply pushing the control in.

b) Travel lever - this lever is located conveniently by the operators right hand, and controls the transmission of power from the pump to the travel motor. When positioned in neutral (vertical) the vehicle will remain stationary, but when the lever is pushed in the direction desired, the vehicle will accelerate in that direction. The top speed for both directions is the same. This lever also controls the braking of the machine. The operator is able to bring the vehicle to rest by returning the travel lever to the neutral position.

CAUTION:

Excessive application of force to the travel lever, whether for acceleration or for braking, will create wheel spin or skid and may cause damage to the transmission system.

c) Parking/Emergency Brake - this lever is located to the right of the operators leg. To apply, simply pull the lever up towards the vertical mode. To aid adjustment, the lever knob can be rotated to give more force to the application of the brakes.

Instruments and Switches

Situated on the Instrument panel are guages, warning lamps and switches.

Gauges: From left to right they are as follows:

Engine oil pressure
Tachometer
Ammeter.

These gauges, of course, are very important to help the operator keep check on the conditions of the engine etc.

Warning Lamps: These supplement the gauges and are as follows:

a) Ignition Lamp - when this is on it indicates that the ignition is on but the engine is not running. When the engine is started this lamp will extinguish.

b) Turntable Lamp - When the turntable is used, or should it be lowered unintentionally (either by operator of the control lever or by hydraulic leakage) this lamp will light up, indicating danger of the turntable fouling the track.

../2.

Instruments & Switches (Continued)

Switches: There are five switches fitted as follows:-

a) Ignition - a key operated switch with three modes; off, on and ignition (engine start)

b) Horn - a press button switch, when when depressed, operates the horn, and when released, automatically switches off.

c) Lights - a toggle switch which activates Head and Tail lights.

d) Revolving Lamp - a toggle switch which operates the revolving lamp fitted at the front of the vehicle.

e) Wipers - a toggle switch which operates the wipers fitted to the front of the vehicle and are self cancelling.

NOTE: The rear wiper motor can only be activated by the switch on the body of the wiper motor itself.

Controls - Machine Raise & Lower

This control is located on the rear left hand panel of the cabin, outside of the cabin compartment and is situated below the hand pump. It can be operated directly, whilst the engine is running, or through the hand pump if the engine has failed.

Operation - Engine Running

To raise the machine, simply push the control valve lever upward. To lower, push the lever down.

Operation - Equipment not running

To raise the machine, push the control lever upward then pump hydraulic oil through the system using the hand pump above the control valve. (Ensure that the vent valve in the hand pump is closed) To lower, simply push the control lever down, the machine will lower itself by its own weight. But once the machine is down, it is necessary to keep the lever down then operate the hand pump in order to raise the turntable plate above the rolling stock outline.

Machine Running

Pre-start Check

Before starting the engine, check the following:-

a) Contents of the fuel tank

b) The engine oil level on the dipstick (see engine operators instructions for further information)

c) The level of the hydraulic oil in the tank (visible through the mesh of the front door)

d) The turntable must be fully raised (the indicator lamp on the instrument panel will be extinguished)

Engine Start

1) Open the throttle approximately 15 - 20 mm

2) Turn on the ignition and start the engine.

Travelling

To propel the machine along the track, simply release the parking brake and push the travel control lever in the direction desired.

Braking

To bring the machine to rest, return the travel control lever to neutral.

CAUTION: Excessive application of force to the travel lever, whether for travelling or for braking, will create wheel spin or skid and may cause damage to the transmission system.

Once the machine is at rest, the parking brake may be applied.

Emergency Braking

In the event of an hydraulic hose burst, it will be necessary to utilise the parking brake as an emergency brake. The design of the parking brake is such, that it is possible to control the amount of braking applied. This will allow the operator to bring the machine back to rest without skidding.

Off and On-tracking the machine

1) Raise the machine with the turntable (the indicator lamp will light up)

2) Manually rotate themachine until it is 90^{o} to the track.

3) Locate the off-track rails under the wheels and straddling the track, ensuring alignment with the off-track stands.

4) Secure the rails with the tie bars provided.

5) Lower the machine onto the off-track rails.

6) Drive the machine off the track then remove the off-track rails.

To on-track the machine, the procedure is simply reversed.

No. 3145

LUBRICATION AND SERVICE DETAILS

SPECIFICATIONS

Hydraulic System Fluid	Castrol Hy-spin AWS46
Engine Oil	30W/40
General Greasing	General Purpose Grease.

Maintenance Schedule

Since the warranty for the engine depends on adherence to the manufacturers maintenance schedule, it is necessary that the owner follows the instructions laid down in the engine Operators Instructions. This should be done in conjunction with the schedule below.

Daily

1) Fill up the fuel tank with diesel.
2) Check the hydraulic fluid level in the reservoir.
3) Check the engine oil level.
4) Visually check the general condition of the hoses.
5) Check to see that the turntable warning lamp is functioning.

Every 50 Hours

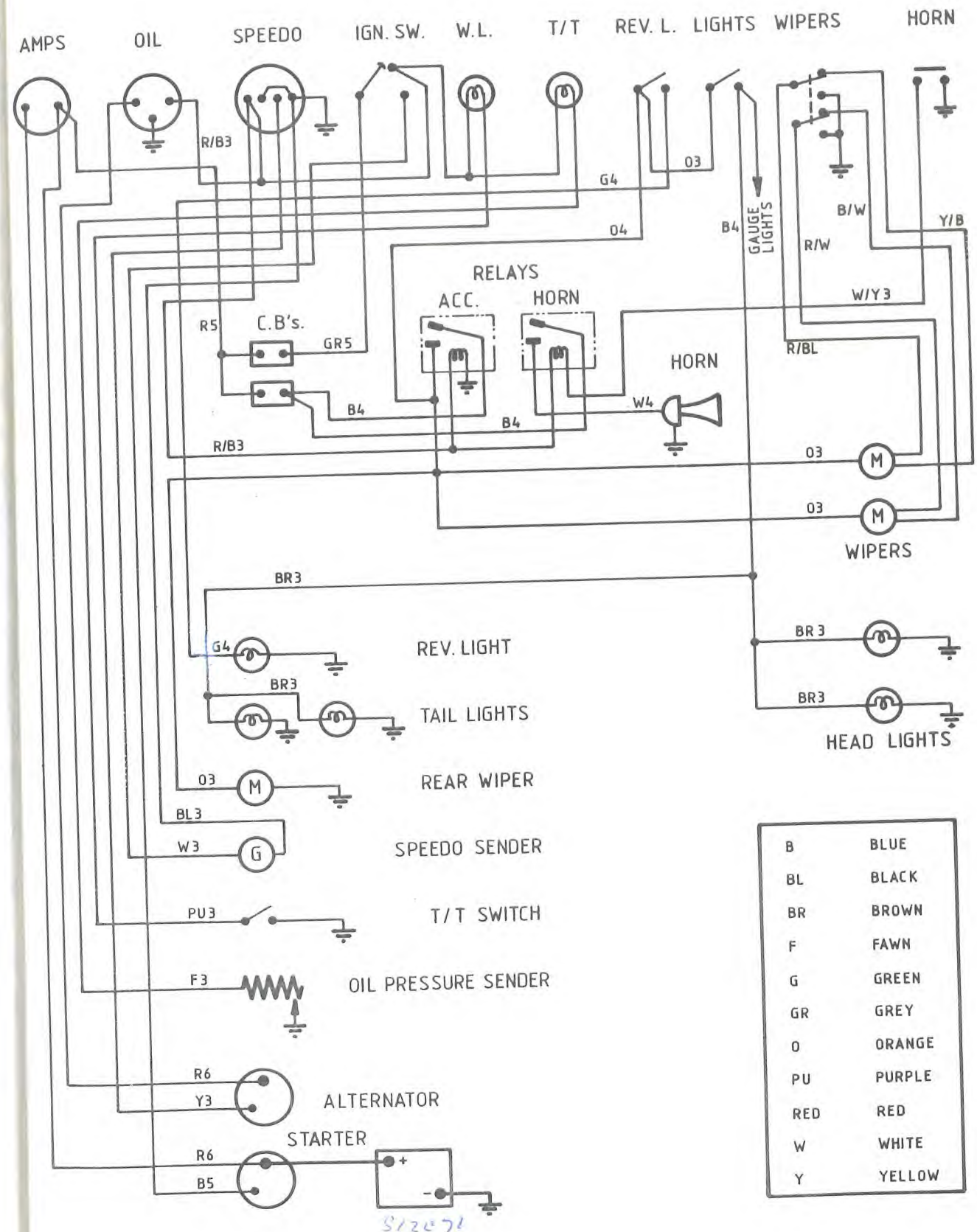
1) In the initial 50 Hour service replace the hydraulic system oil filters.
2) Check the level of electrolyte in the battery.
3) Ensure that control linkages are free to operate and lubricate with engine oil if necessary.
4) Visually check and lubricate the drive chain. Lubricate with chain lubricant.
5) Inspect the machine, repairing any damage and making adjustments for any wear.

200 Hours

Replace the oil filter element and clean the suction strainer.

No. 3146

ELECTRICAL CIRCUIT

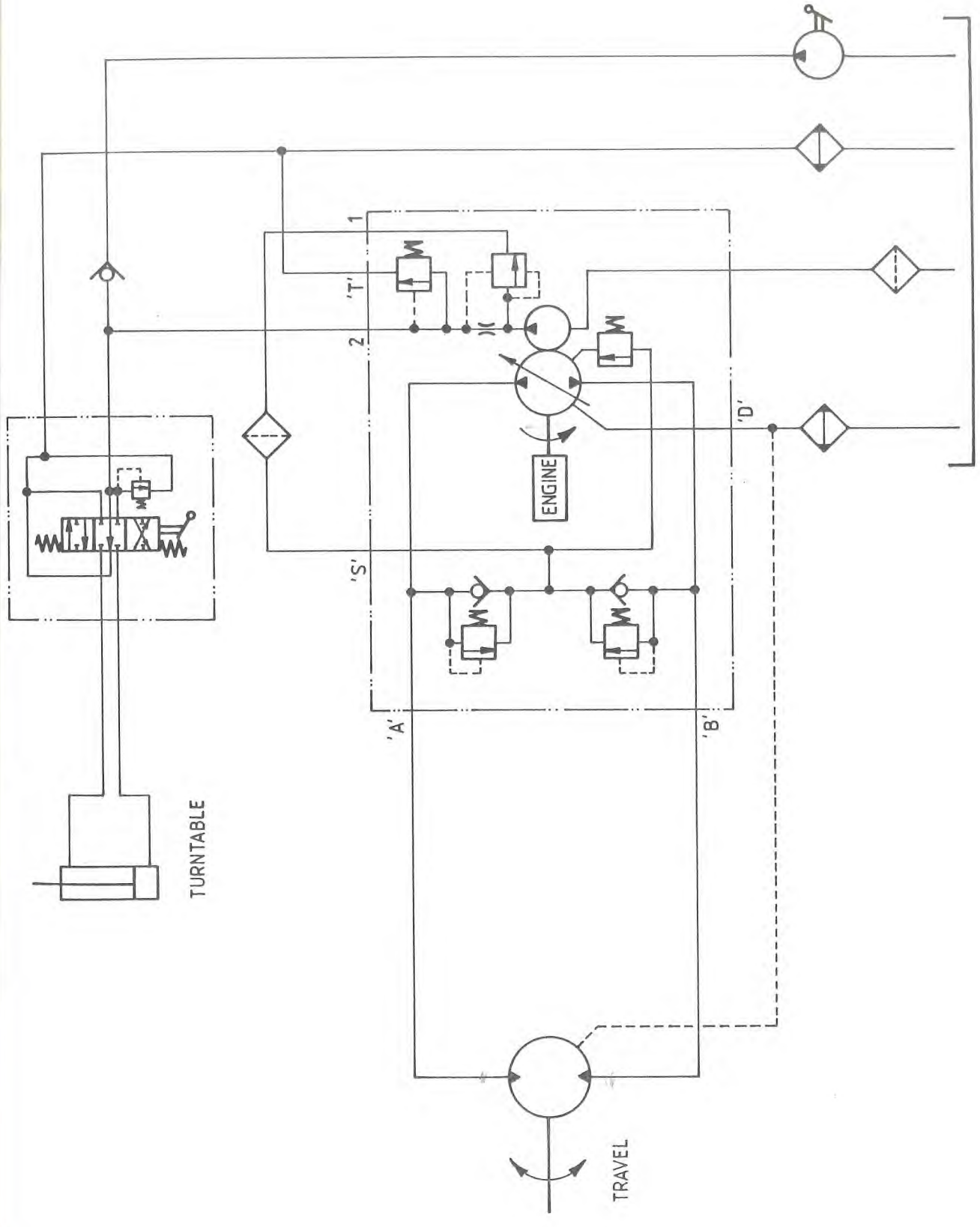


B	BLUE
BL	BLACK
BR	BROWN
F	FAWN
G	GREEN
GR	GREY
O	ORANGE
PU	PURPLE
RED	RED
W	WHITE
Y	YELLOW

S/2671

No. 3147

HYDRAULIC CIRCUIT



HYDRAULIC CIRCUIT

SPECIFICATIONS

Pump RPM	2500
Variable Pump Displacement	0-102 l/min
Variable Pump Relief Valve Pressure	24MPa 3500 PSI
Supercharge flow (Line from Port No. 1 to Port S)	23 l/min
Supercharge pressure (Line from Port No. 1 to Port S)	1 MPa 145 PSI
Flow rate of oil to Control Valve (Turntable)	23 l/min
Relief Valve Setting of Control Valve (Turntable)	7 MPa 1000 PSI
Pump Leak-off	0.3-0.5 l/min
Motor Leak-off	0.3-0.5 l/min

NOTES

Start-up

Fill both pump and motor cases completely with Clean Oil before starting.

All pipework must be cleaned and flushed before starting.

Reservoir must be free of scale, rust, slag or slivers of rubber.

Install a 3 micron filter in the Pump/Motor Closed Loop circuit and run at 1800 rpm/½ Stroke for 10 minutes.

Remove filter and reconnect the lines, taking care to prevent the ingress of dirt into the system.

Monitor the supercharge pressure (1MPa)

IMPORTANT

If at any time the closed loop circuit is opened (a burst hose or a replaced motor or pump) the START-UP Procedure MUST be repeated to protect the components from dirt etc.

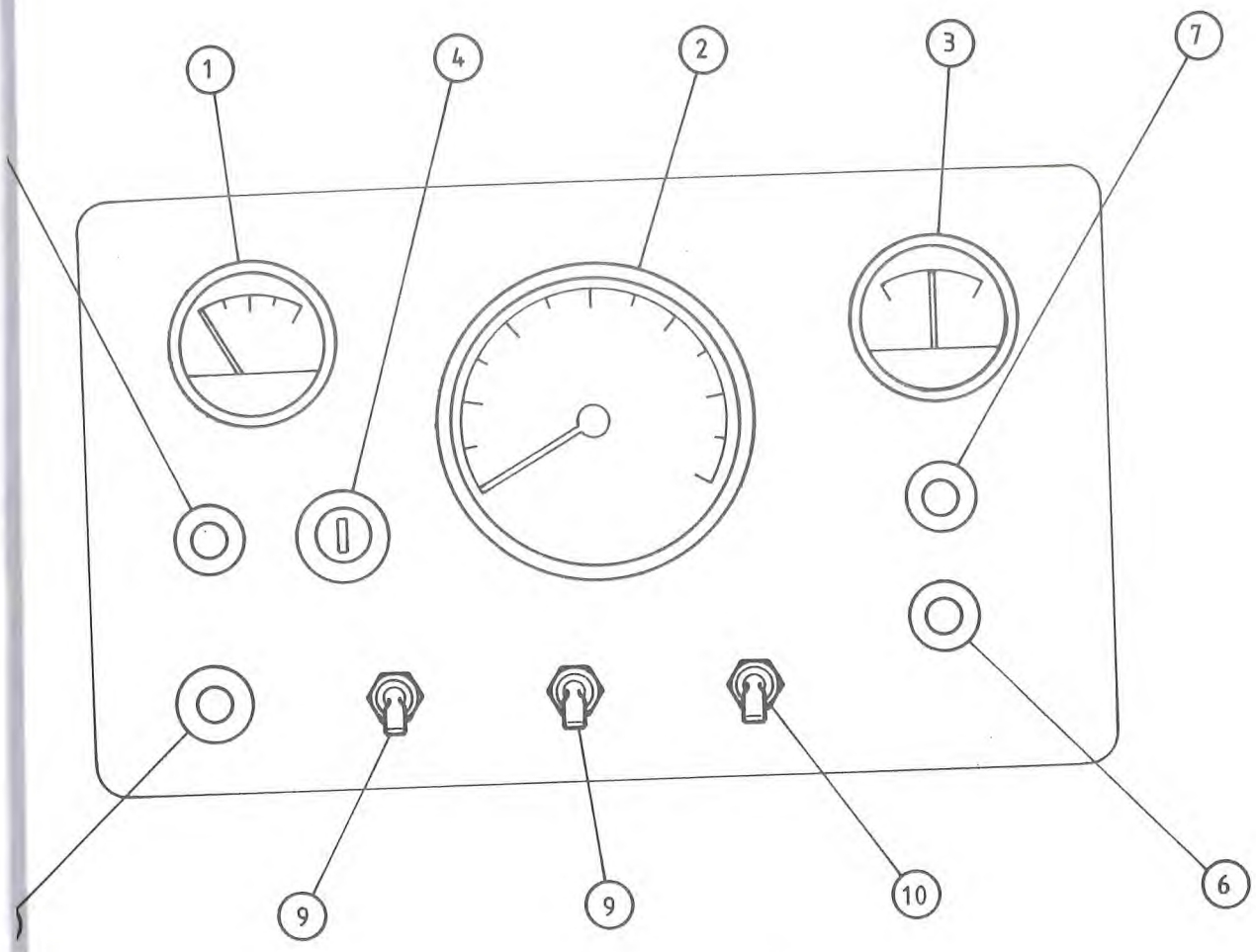
No. 3148

ENGINE COMPONENTS

EF NO.	QTY	PART NO.	DESCRIPTION
1	1		Engine, Deutz F2L912
2	4		Bolt - M12 x 80 - Engine to Mountings
3	4		Washer - M12 - Engine to Mountings
4	4		Lockwasher - M12 - Engine to Mountings
5	4	22006/4	Frustacon Mounting - Engine
6	4		Bolt - M8 x 25 - Engine to Chassis
7	4		Bolt - M8 x 30 - Engine to Chassis
8	8		Lockwasher - M8 - Engine to Chassis
9	4		Washer - M8 - Engine to Chassis
10	1	C-22130	Fuel Tank
11	1	22006/25	Fuel Tank Gauge

No. 3149

INSTRUMENT PANEL



F NO.	QTY.	PART NO.	DESCRIPTION
1	1	22012/18	Gauge, Engine Oil Pressure
2	1	22012/1	Speedometer
3	1	22012/21	Gauge - Ammeter
4	1		Ignition Switch (See Engine Parts Catalogue)
5	1		Warning Lamp Ignition (See Engine Parts Cat.)
6	1		Warning Lamp (See Engine Parts Catalogue)
7	1	22012/25	Warning Lamp - Turntable
8	1	22012/23	Horn Button
9	2	22012/24	Toggle Switch - Lights & Rev. Lamp
10	1	22012/29	Toggle Switch - Wipers

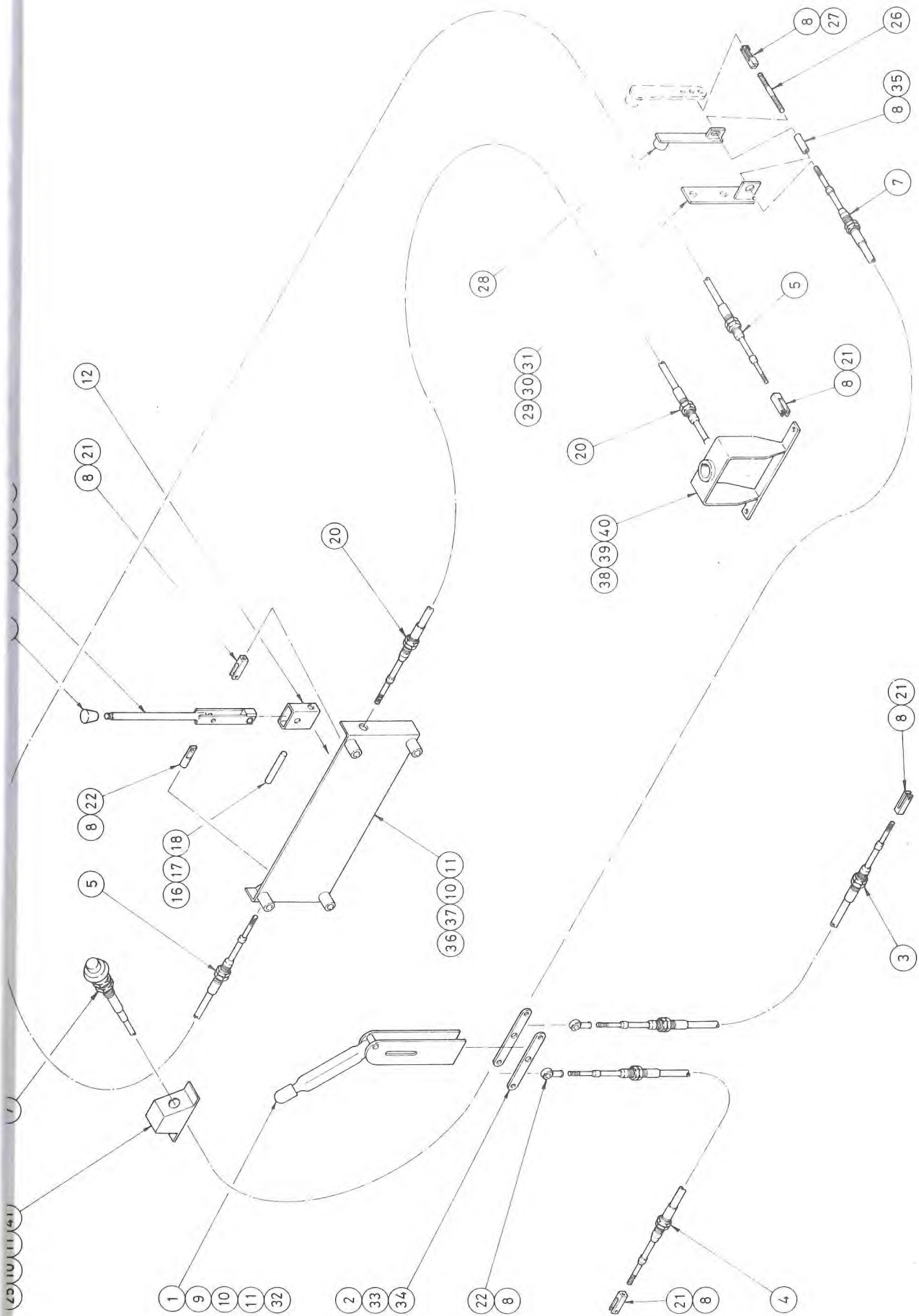
No. 3150

ELECTRICAL COMPONENTS

F NO.	QTY.	PART NO.	DESCRIPTION
1	2	22012/4	Headlight Assembly
2	2	22012/5	Taillight Assembly
3	1	22012/7	Revolving Light Assembly
4	1	22012/6	Horn Assembly
5	1	22012/8	Wiper Motor Assembly - Front Windows
6	1	22012/33	Wiper Motor Assembly - Rear Window
7	3	22012/9	Wiper Arm
8	2	22012/10	Wiper Blade - Front
9	1	22012/34	Wiper Blade - Rear
10	1	22012/11	Battery
11	1	22012/12	Earch Strap
12	1	A-22139	Battery Clamp Assembly

No. 3151

MOTION CONTROL GROUP



MOTION CONTROL GROUP

F NO.	QTY.	PART NO.	DESCRIPTION
1	1	22011/1	Parking Brake
2	2	A-22140	Lever
3	1	22011/3	Push/Pull Cable - Parking Brake, Rear
4	1	22011/4	Push/Pull Cable - Parking Brake, Front
5	1	22011/5	Push/Pull Cable - Travel, 4060 Lng.
6	2	11243-4	Rod End
7	1	22011/7	Push/Pull Control - Throttle
8	11		Nut - Hex ¼" - 28UNF
9	2		Bolt M8 x 1,25P x 50 Hex.Hd.
10	8		Lockwasher - M8
11	8		Nut - M8 x 1,25 Hex
12	1	A-21753	Lever Housing
13	1	B-22143	Hydraulic Control Lever
14	1		Bolt - ¼" UNF x 1½" Hex.Hd.
15	8		Washer - ¼" Black Flat
16	1	A-21754	Pivot Pin
17	2		Washer - M10 Flat
18	8		Split Pin - 1.16" Dia x 3/4"
19	1	22011/19	Knob
20	1	22011/20	Push/Pull Cable - Travel - 3560 Lng.
21	5	22011/21	Clevis Assembly
22	1	22011/22	Eye End
23	1		Nut - ¼" UNC, Nyloc
24	6		¼" x 7/8" Clevis Pin
25	1	A-22346	Throttle Mounting
26	1	A-22340	Link
27	1	A-22341	Yoke
28	1	A-22339	Lever
29	1	A-22338	Bracket
30	2		Bolt M12 x 1,75 P x 20 Hex Hd.
31	2		Lockwasher - M12
32	2	A-22342	Spacer
33	2		Bolt M6 x 1P x 25 Long Hex.Hd.
34	2		Nut, Nyloc M6 x 1P Hex.
35	1	A-22337	Coupling
36	1	B-22369	Bracket
37	4		Bolt, M8 x 1,25P x 40 Hex Hd.
38	1	B-22181	Control Lever

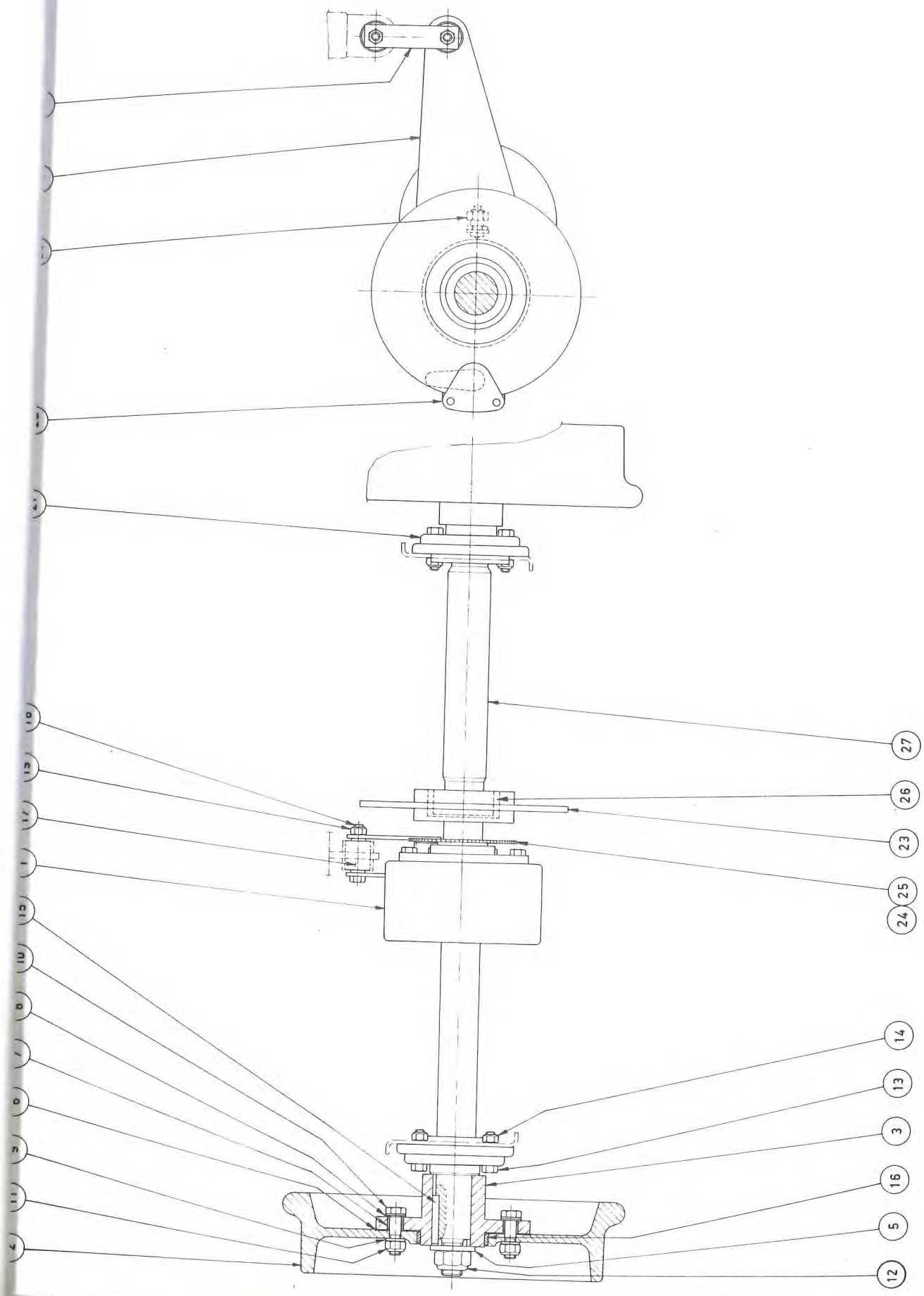
MOTION CONTROL GROUP

F NO.	QTY.	PART NO.	DESCRIPTION
39	1		Key - ¼" x 3/4" Woodruff
40	1	22006/21	Circlip
41	2		Bolt -M8 x 1,25P x 15 Lng Hex Hd.

No. 3152

AXLE & WHEEL GROUP - DRIVE

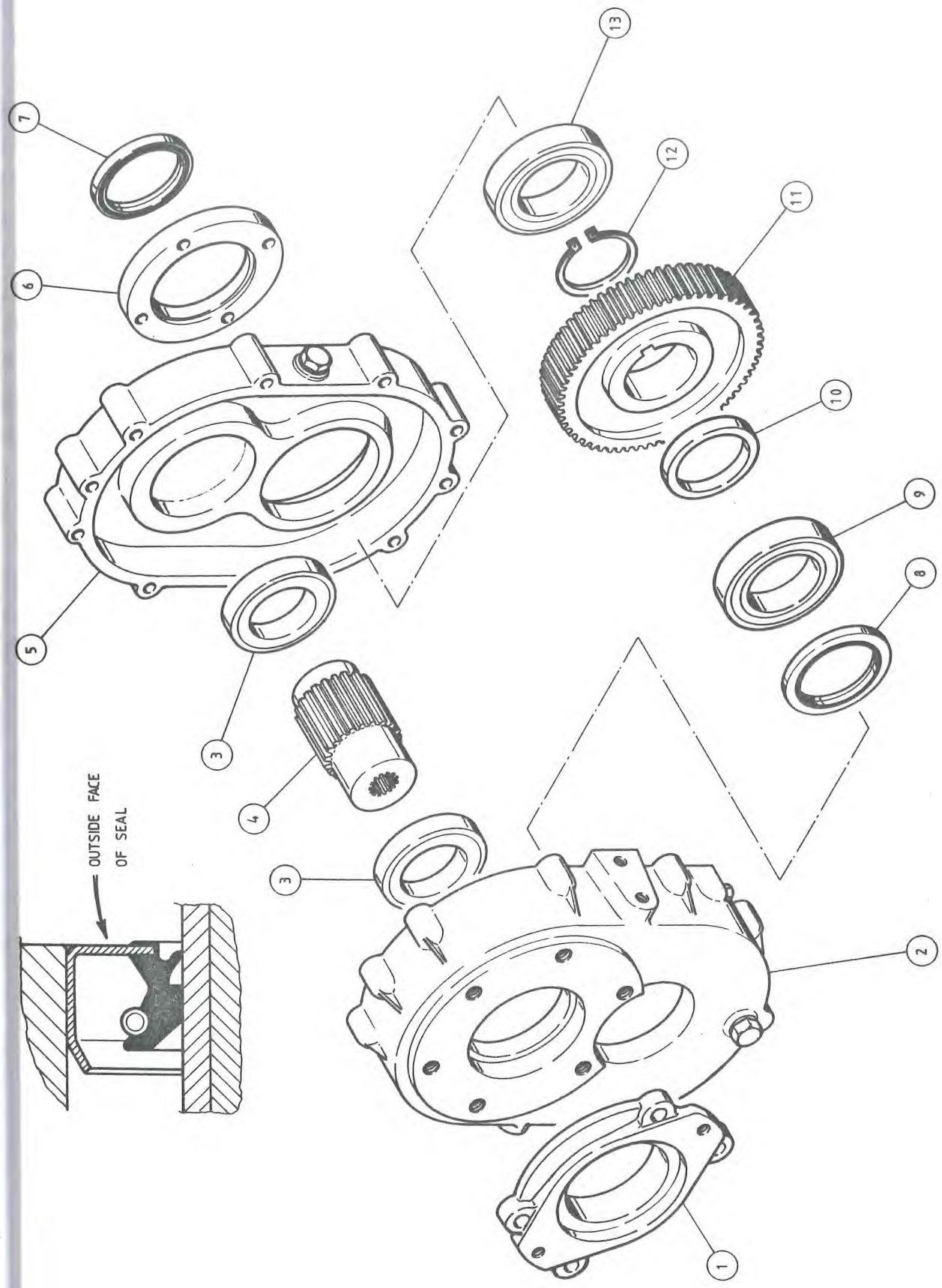
SHEET 1 OF 4



AXLE AND WHEELS GROUP - DRIVE

F NO.	QTY.	PART NO.	DESCRIPTION
1	1	22418/1	Gearbox Complete (See Sheet 3 for breakdown
2	2	C-22148	Wheel
3	2	B-22420	Wheel Hub
4	1	A-22175	Torque Link
5	2		Washer - 1¼"
6	2	B-17460	Insulating Disc.
7	16	A-THC106	Insulating Bush
8	16	A-THC113	Insulating Washer
9	32		Plain Washer - 5/8"
10	16		Bolt - 5/8" UNC x 2½"
11	16		Nyloc Nut - 5/8" UNC
12	2		Nyloc Nut - M30 x 3.5P, Thin
13	8		Bolt - M12 x 1.75P x 55 Hex.Hd.
14	8		Nyloc Nut - M12 x 1.75P
15	2		Key - ½" Sq. x 70 mm Lng.
16	2	A-17459	Insulating Ring
17	2	22418/17	Flexible Bearing
18	2		Bolt - ½" UNC x 3" Hex.Hd.
19	2		Nyloc Nut.
20	1	22418/20	Disc Brake Caliper
21	2	22418/21	Flange Unit
22	2	A-22176	Link
23	1	B-22421	Disc
24	1		Set Screw, Socket Set Cone Pt. - M6 x 10 Long
25	1	A-22174	Speedometer sensing ring
26	1	22418/26	Locking Ring
27	1	B-22156	Axle Shaft
28	1	22012/2	Sender - Speedometer

AXLE & WHEELS GROUP - DRIVE

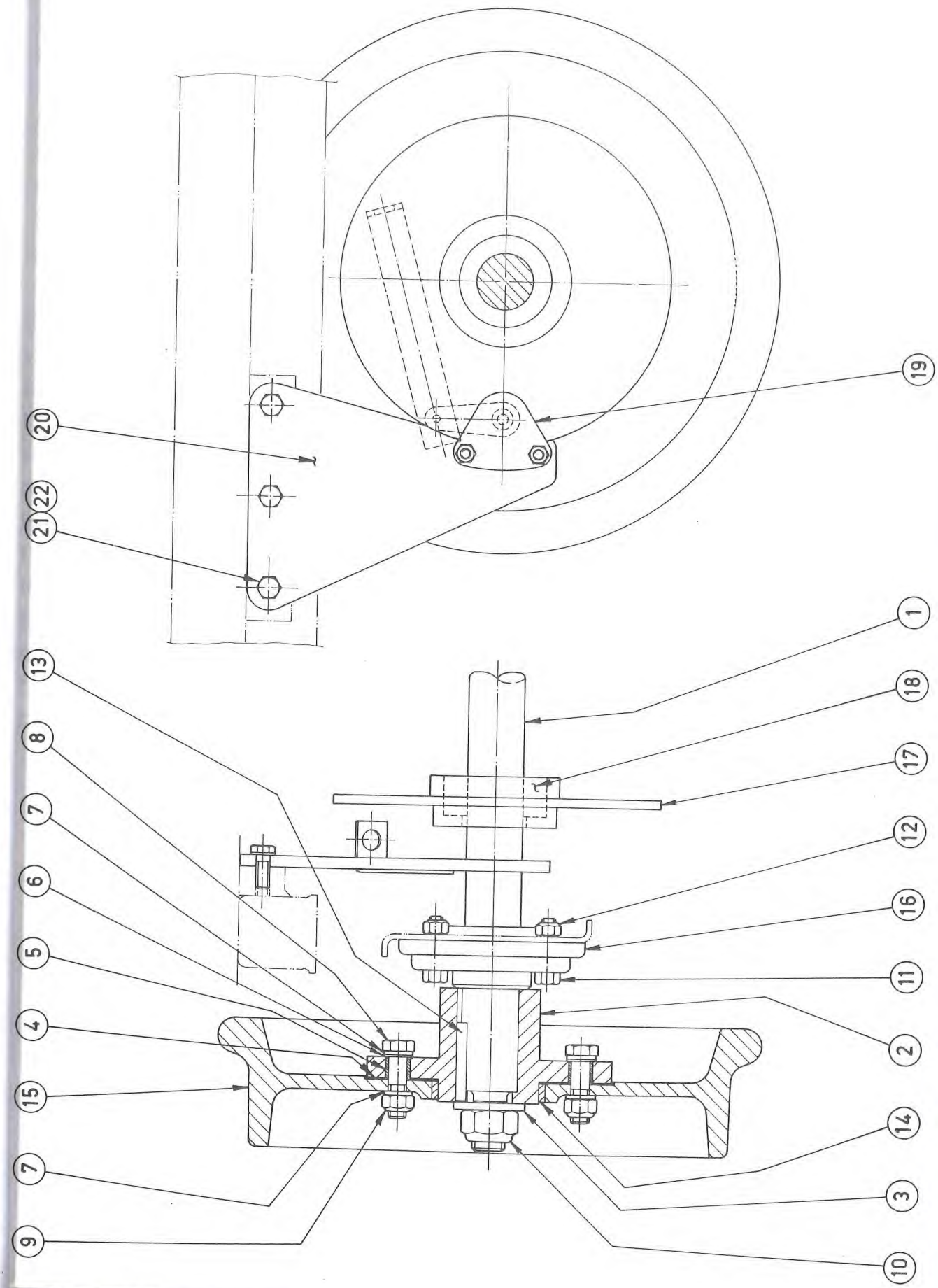


AXLE & WHEEL GROUP - DRIVE

NO.	QTY.	PART NO.	DESCRIPTION
1	1	A-22157	Mounting Flange - Motor
2	1	A-22158	Gearbox Housing - Motor Side
3	2		Bearing
4	1		Gear - Drive
5	1		Gearbox Housing - Blank Side
6	1	A-22159	Flange
7	1		Seal - 50 mm Dia.
8	1		Seal - 55 mm Dia.
9	1		Bearing - 55 mm Shaft Dia.
0	1	A-22172	Spacer
1	1		Gear - Driven
2	1	22158/3	Circlip
3	1		Bearing - 55 mm Shaft Dia.

No. 3153

AXLE & WHEELS GROUP - IDLER

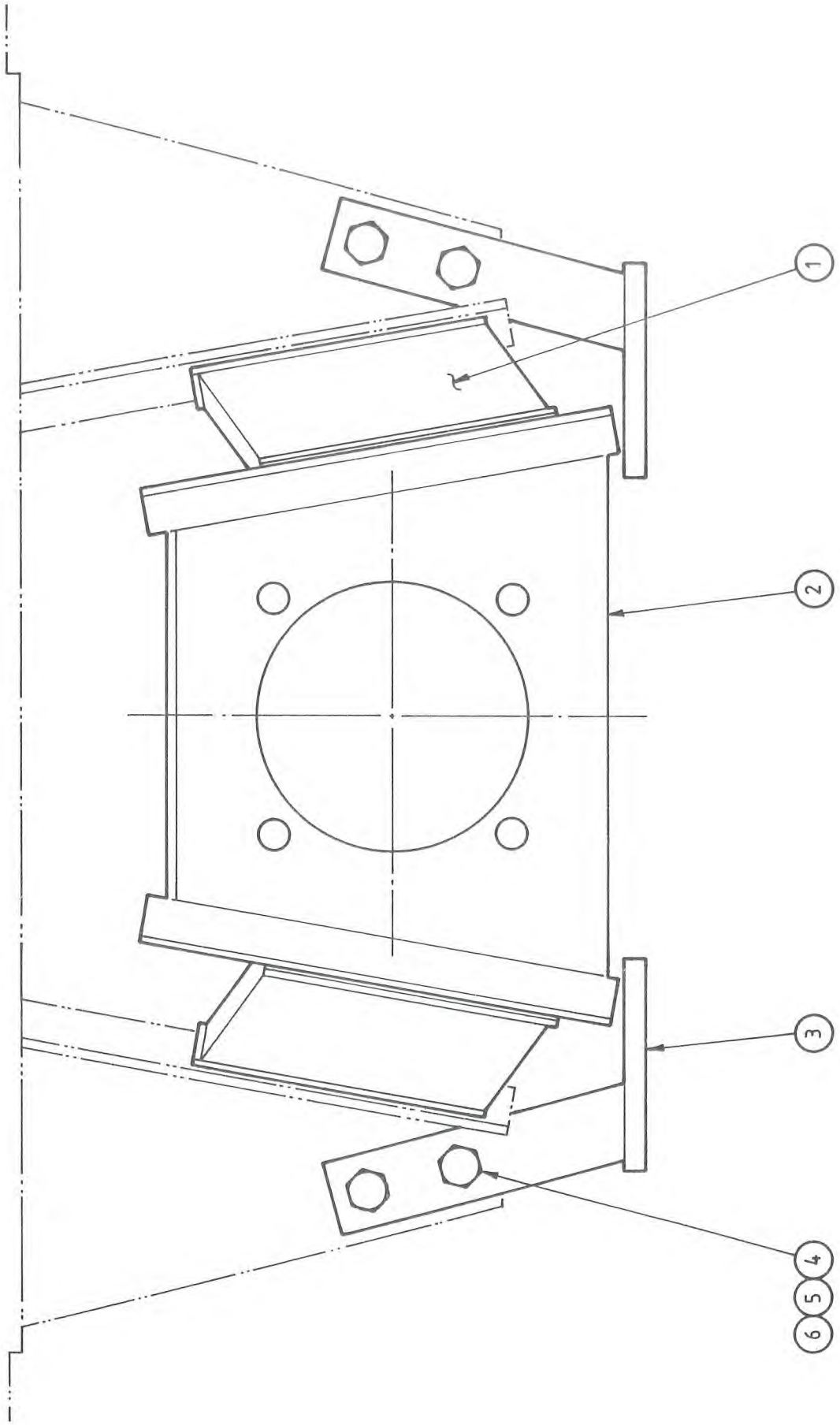


AXLE & WHEELS GROUP - IDLER

NO.	QTY.	PART NO.	DESCRIPTION
1	1	B-22041	Axle Shaft
2	2	B-22420	Hub - Wheel
3	2		Washer, 1¼"
4	2	B-17460	Insulating Disc
5	16	A-THC106	Insulating Bush
6	16	A-THC113	Insulating Washer
7	32		Plain Washer - 5/8" Dia.
8	16		Bolt - 5/8" UNC x 2½"
9	16		Nut - 5/8" UNC, Nylco
0	2		Nut - M30 x 3,5P, Nyloc Thin
1	8		Bolt - M12 x 1,75P x 55 Hex.Hd.
2	8		Nut, Nyloc - M12 x 1,75P
3	2		Key - ½" x ½" x 70 Lng.
4	2	A-17459	Insulating Ring
5	2	C-22148	Wheel
6	2	22418/21	Flange Unit
7	1	B-22042	Disc
8	1	22419/18	Locking Ring
9	1	22418/20	Disc Brake Caliper
0	1	B-22177	Retainer
1	3		Bolt - M12 x 1,75P x 30 Lng Hex.Hd.
2	3		Spring Washer - M12

No. 3154

SUSPENSION GROUP



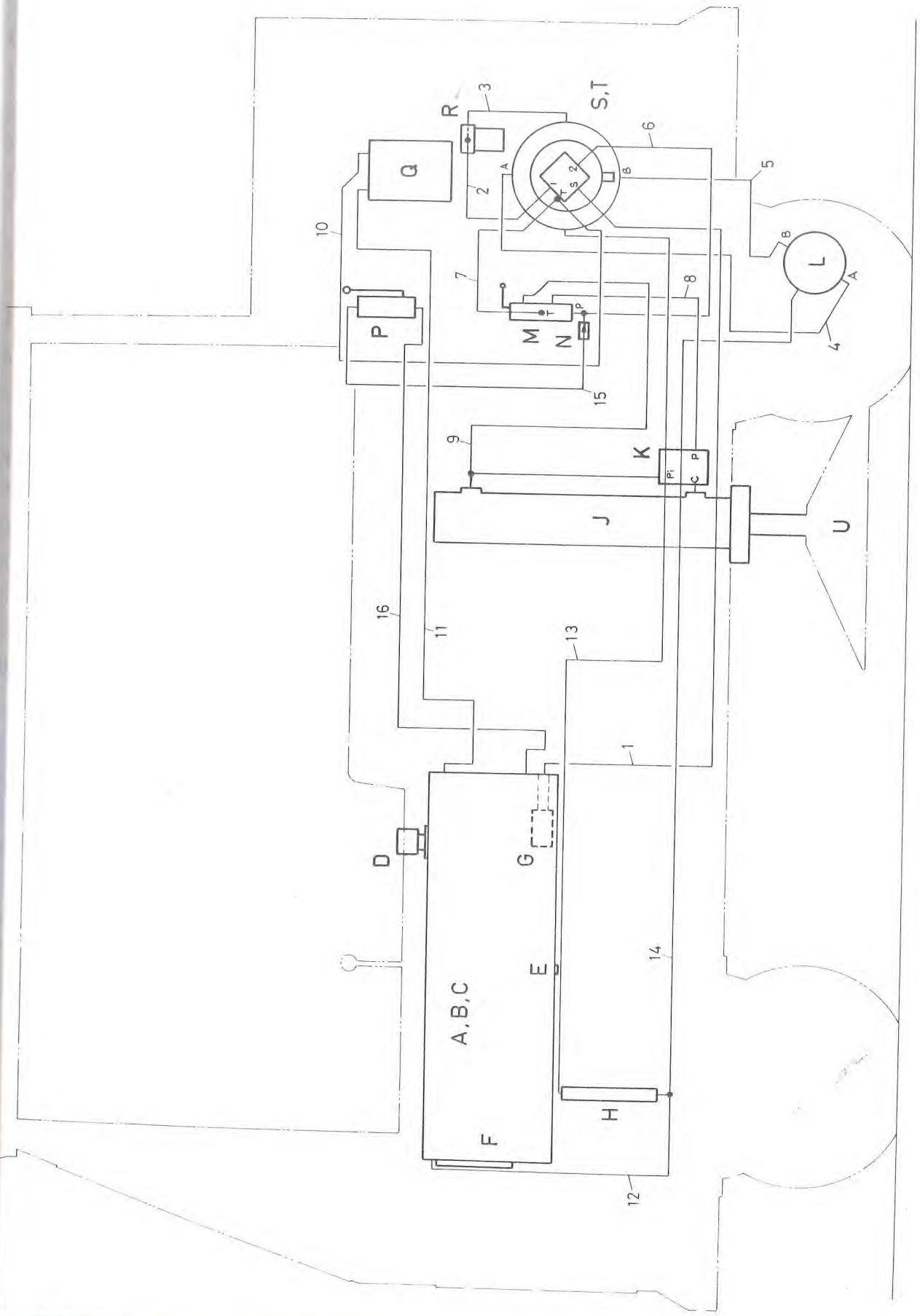
SUSPENSION GROUP

NO.	QTY.	PART NO.	DESCRIPTION
	8	22010/4	Suspension Rubber
	4	B022048	Bearing Housing
	8	A-22404	Bracket - Axle Retaining
	16		Bolt -M10 x 1.5P x 25 Lng.
	16		Lockwasher - M10
	16		Nut - M10 x 1.5P Hex.

No. 3155

HYDRAULIC COMPONENTS

SHEET 1 OF 3



HYDRAULIC COMPONENTS

F NO.	QTY.	PART NO.	DESCRIPTION
A	1	D-22166	Oil Tank
B	1	A-22167	Cover - Oil Tank
C	1	A-22168	Gasket - Cover
D	1	22013/10	Filler Breather
E	1	22013/14	Drain Plug - Magnetic
F	1	22013/21	Level/Temp. Gauge
G	1	22013/82	Suction Strainer
H	1	22013/20	Heat Exchanger
J	1	C-341	Cylinder - Turntable
K	1	22013/26	Lock Valve
L	1	22013/22	Motor - Traction
M	1	22013/15	Control Valve - Turntable
N	1	22013/27	Check Valve
P	1	22013/25	Hand Pump - Emergency
Q	1	22013/19	Oil Cooler - Engine mounted - refer Deutz Cat.
R	1	22013/19	Filter - In Line
S	1	22006/3	Pump Assembly - Hydrostatic
T	1	22006/2	Pump Adaptor Assembly
U	1	B-22127	Turntable Plate

HYDRAULIC COMPONENTS

HOSE LIST

No. 3155

se	Length	Hose Type	End Fittings		Qty	
1	2400	SR16	# 2 House Clamp	# 2 Hose Clamp	1	
2	260	D800-8	D805/148	D805/148	1	
3	480	D800-8	D805/148	D807/148	1	
4	1460	D400-16	D408/2116	D405/2116	1	
5	960	D400-16	D405/2116	D405/2116	1	
6	670	D800-6	D805/126	D805/126	1	
7	840	D800-6	D805/126	D805/126	1	
8	1900	D800-6	D805/126	D897/126	1	6 Man Car
9	2100	D800-6	D805-126	D897/126	1	
10	710	D800-6	D899/126	D897/126	1	
11	3300	D800-6	~~D805/126~~	~~D897/126~~	1	
12	640	D800-6	D805-126	D897-126	1	
13	3130	D800-6	D805/126	D807/126	1	
14	3370	D800-6	D805/126	D897/126	1	
15	600	D800-6	D805/126	D897/126	1	
16	3350	D800-6	D805/126	D897/126		
1	3000	SR16	# 2 Hose Clamp	# 2 Hose Clamp	1	
2	260	D800-8	D805/148	D805/148	1	
3	480	D800-8	D504/148	D807/148	1	
4	1460	D400-16	D408/2116	D405/2116	1	
5	960	D400-16	D405/2116	D405/2116	1	
6	670	D800-6	D805/126	D905/126	1	
7	840	D800-6	D805/126	D805.126	1	
8	2200	D800-6	D805/126	D897-126	1	
9	2400	D800-6	D805/126	D897-126	1	8 Man Car
10	710	D800-6	D899/126	D897/126	1	
11	3850	D800-6	D805/126	D897/126	1	
12	640	D800-6	D805/126	D897/126	1	
13	3680	D800-6	D805/126	D807/126	1	
14	3920	D800-6	D805/126	D897/126	1	
15	600	D800-6	D805/126	D897/126	1	
16	3900	D800-6	D805/126	D897/126	1	

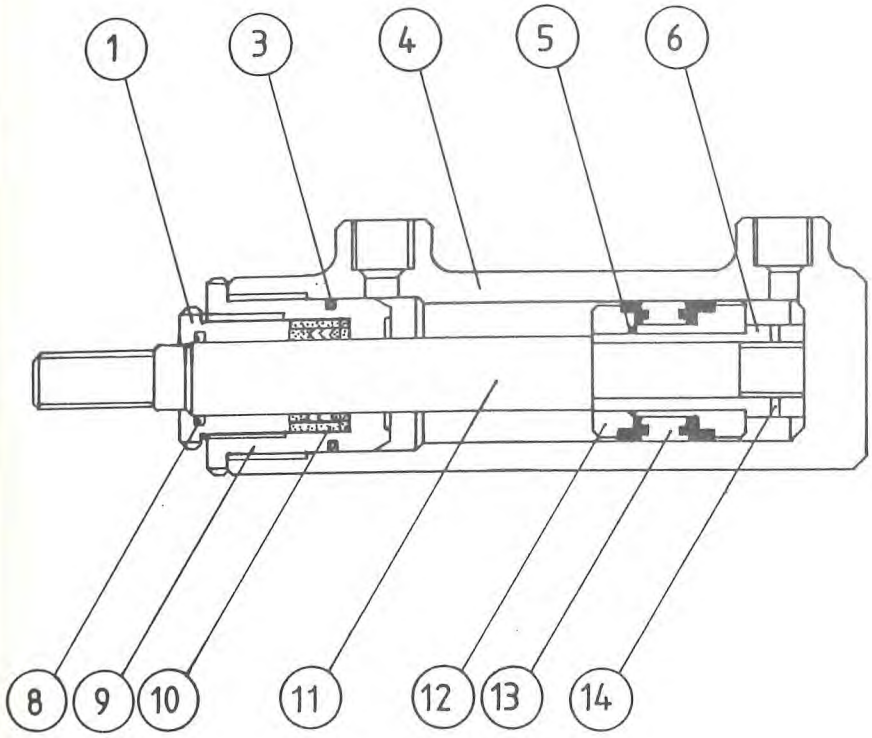
CABIN COMPONENTS

NO.	QTY.	PART NO.	DESCRIPTION
1	2	A-21998	Window Pane - Front Upper
2	2	A-21999	Window Pane - Front Lower
3	2	A-22000	Window Pane - Rear
4	A/R	22005/9	Window Rubber
5	A/R	22005/10	Locking strip - Window Rubber
6	2	A-22737	Window Frame - Rear Windows
7	2	22005/7	Seat Cushion Set - Front Seats
8	2	A-22703	Seat Cushion - 6 Man Car
	2	A-22705	Seat Cushion - 8 Man Car
9	2	A-22704	Back Rest Cushion - 6 Man Car
	2	A-22706	Back Rest Cushion - 8 Man Car
10	1	22005/8	Rear Vision Mirror
11	1	A-22001	Set of curtains - 6 Man Car
	1	A-22210	Set of curtains - 8 Man Car
12	A/R	22005/23	Turn Buttons - Curtain Mounting
13	2	22005/32	Roof Lining - 6 Man Car
	2	22216/33	Roof Lining - 8 Man Car
14	2	22005/32	Wall Lining, Rear - 6 Man Car
	2	22216/33	Wall Lining, Rear - 8 Man Car

No.

HYDRAULIC CYLINDER - HR SERIES

SHEET OF



REF. NO.	QTY.	PART NO.	DESCRIPTION
1	1	C.../1	Gland Nut
3	1	C.../3	Gland Nut
4	1	C.../4	Cylinder Body
5	1	C.../5	Piston Seal
6	1	C.../6	Piston Nut
8	1	C.../8	Rod Wiper
9	1	C.../9	Gland
10	1	C.../10	Gland Packings
11	1	C.../11	Piston Rod
12	1	C.../12	Piston
13	1	C.../13	Piston Packing
14	1	C.../14	Nut Locking Pin

To Order Correct Part Quote Cylinder No./Item No.

E.G. C336/1 Gland Nut