Adjusting the control console position

2732715

⚠ WARNING

Do not adjust the position of the control consoles during driving.
Concentrate on the road to avoid accidents.
Do not change the position of the control consoles when the hydraulic pilot control is on, to avoid the risk of initiating working equipment movements by inadvertently touching a control lever.

Before changing the position of the control consoles:

- stop the machine, to do so, release travel pedals (61 and 63, Fig. 6), they return to the middle position automatically,
- set working equipment down to the ground,
- shut off engine,
- swith off the pilot control with lever (77).

The lever for switching the hydraulic pilot control (77) on and off is attached to the lefthand control console.

The control console swings up when the pilot control is switched off.

For switching the pilot control on, the control console is pushed downwards until it engages (cf. "Switching on the pilot control").

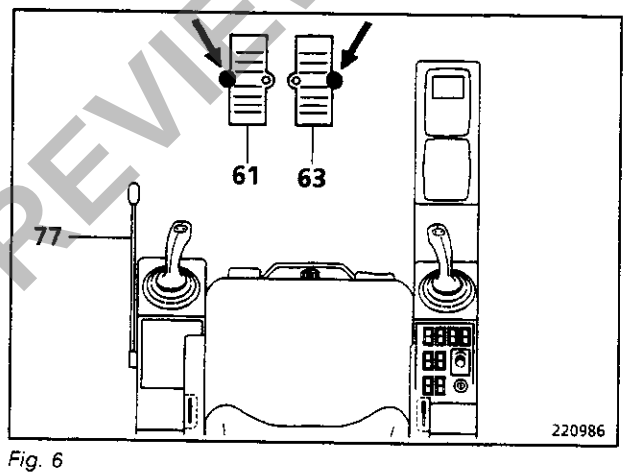


Fig. 6

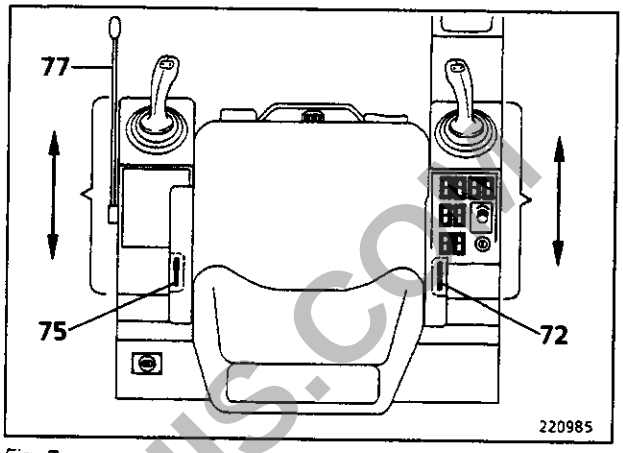


Fig. 7

The control consoles on the right and on the left of the driver's seat can be shifted forwards and backwards parallel to the seat by approximately 16 cm (6.3") to enable the operator to choose his individual position for fatigue-free working.

Adjusting the righthand control console:

- Push lever (72, Fig. 7) forwards against the spring resistance and maintain while shifting the console into the desired position.

  Release lever and check that the console is locked firmly in place.

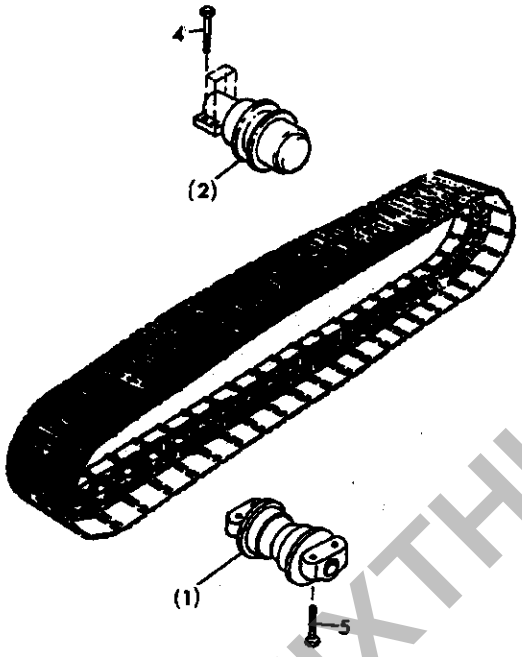
Adjusting the lefthand control console:

- Push lever (75) forwards against the spring resistance and maintain while shifting the console into the desired position.

  Release lever and check that the console is locked firmly in place. □

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2 283 594.010

CRAWLER CHASSIS INSTALL.MATERIAL

06.010

FX140 / 11804 - .....

T 2283594 - 000
B 2283594 - 010

Item	Quan.	ME	Part No.	Description
001	8	00		**06.150 2249579** IDLER ROLLER
002	2	00		**06.180 2215793** SUPPORT ROLLER
004	8	00	**73171580**	HEXAGON BOLT
005	32	00	**73171578**	HEXAGON BOLT

ME: 00 = Stück/piece 13 = m 26 = m^2 39 = m^3 43 = kg 50 = l (litre)

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END POINT	CABLE NO.	mm²	NO.	mm²	CABLE NO.	END POINT
CENTRAL ELECTRONIC UNIT			1			N. C.
CENTRAL ELECTRONIC UNIT			2			N. C.
CENTRAL ELECTRONIC UNIT			3		43	X107: 8
CENTRAL ELECTRONIC UNIT			4	0.5	44	X117: 11
CENTRAL ELECTRONIC UNIT			5	0.5		N. C.
CENTRAL ELECTRONIC UNIT			6	0.5	46	X104: 3
CENTRAL ELECTRONIC UNIT			7	0.5	47	X104: 4
CENTRAL ELECTRONIC UNIT			8	0.5	48	X104: 5
CENTRAL ELECTRONIC UNIT			9	0.5	49	X104: 6
CENTRAL ELECTRONIC UNIT			10	0.5	50	X104: 7
CENTRAL ELECTRONIC UNIT			11	0.5	51	X117: 14
CENTRAL ELECTRONIC UNIT			12	0.5	52	X117: 15
CENTRAL ELECTRONIC UNIT			13	0.5	53	X107: 15
CENTRAL ELECTRONIC UNIT			14	0.5	54	X102: 12
CENTRAL ELECTRONIC UNIT			15	0.5	55	X111: 1
CENTRAL ELECTRONIC UNIT			16	0.5	56	X100: 7
CENTRAL ELECTRONIC UNIT			17	0.5	57	X100: 8
CENTRAL ELECTRONIC UNIT			18	0.5	58	X100: 9
CENTRAL ELECTRONIC UNIT			19	0.5	59	X100: 10
CENTRAL ELECTRONIC UNIT			20	0.5	60	X100: 11
CENTRAL ELECTRONIC UNIT			21	0.5	61	A10X1: 21
CENTRAL ELECTRONIC UNIT			22	0.5	62	A10X1: 22
CENTRAL ELECTRONIC UNIT			23	0.5	63	A10X4: 4
CENTRAL ELECTRONIC UNIT			24	0.5	64	A10X4: 5
CENTRAL ELECTRONIC UNIT			25	0.5	65	X100: 12

CONNECTION TABLE PLUG/SOCKET **A100X3** CONTROL PANEL

END POINT	CABLE NO.	mm²	NO.	mm²	CABLE NO.	END POINT
LOAD LIMIT GOVERNOR			1	0.5	74	F3 (15)
LOAD LIMIT GOVERNOR			2	0.5	103	X104: 1
LOAD LIMIT GOVERNOR			3	0.5	88	X101: 5
LOAD LIMIT GOVERNOR			4	0.5	104	X104: 13
LOAD LIMIT GOVERNOR			5	0.5	89	X101: 6
LOAD LIMIT GOVERNOR			6	0.5	105	R10
LOAD LIMIT GOVERNOR			7	0.5	99	X106: 3
LOAD LIMIT GOVERNOR			8			N. C.
LOAD LIMIT GOVERNOR			9			N. C.
LOAD LIMIT GOVERNOR			10			N. C.
LOAD LIMIT GOVERNOR			11			N. C.
LOAD LIMIT GOVERNOR			12			N. C.
LOAD LIMIT GOVERNOR			13	0.5	107	X102: 2
LOAD LIMIT GOVERNOR			14	0.75	97	X102: 1
LOAD LIMIT GOVERNOR			15	0.5	317	X117: 8
LOAD LIMIT GOVERNOR			16			N. C.
LOAD LIMIT GOVERNOR			17	0.5	135	X117: 7
LOAD LIMIT GOVERNOR			18			N. C.
LOAD LIMIT GOVERNOR			19			N. C.
LOAD LIMIT GOVERNOR			20	0.5	108	X117: 9
LOAD LIMIT GOVERNOR			21	0.5	61	A100X3: 21
LOAD LIMIT GOVERNOR			22	0.5	62	A100X3: 22
LOAD LIMIT GOVERNOR			23			N. C.
LOAD LIMIT GOVERNOR			24	0.5	86	X101: 1
LOAD LIMIT GOVERNOR			25	0.5	110	GROUND (-)

CONNECTION TABLE PLUG/SOCKET **A10X1** LOAD LIMIT GOVERNOR

313	31	052	50					Datum/Date	Name		
Typ	86	U86	CH	02	AW 539	20.06.96	Sem	Bearb./Written	07.11.97	Seelin	
FX140-270				01	AW 114	03.02.96	Sem	Gepr./Checked			
				Ind	Änd.-Nr./Change-No	Datum/Date	Name	Norm/St./Check			
								Bearb.Abt./Written department		Urspr./Origin.	

Benennung/Description
WIRING DIAGRAM
A100X3 - A10X1

Sach-Nr. Part-No **2459343-12**

4 Blatt Sheet 12
F.K. D.B.No. 21 Blätter Sheets

Ers. für Substitut for | Ers. durch Substituted

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Screws, Tightening Torques and Locking

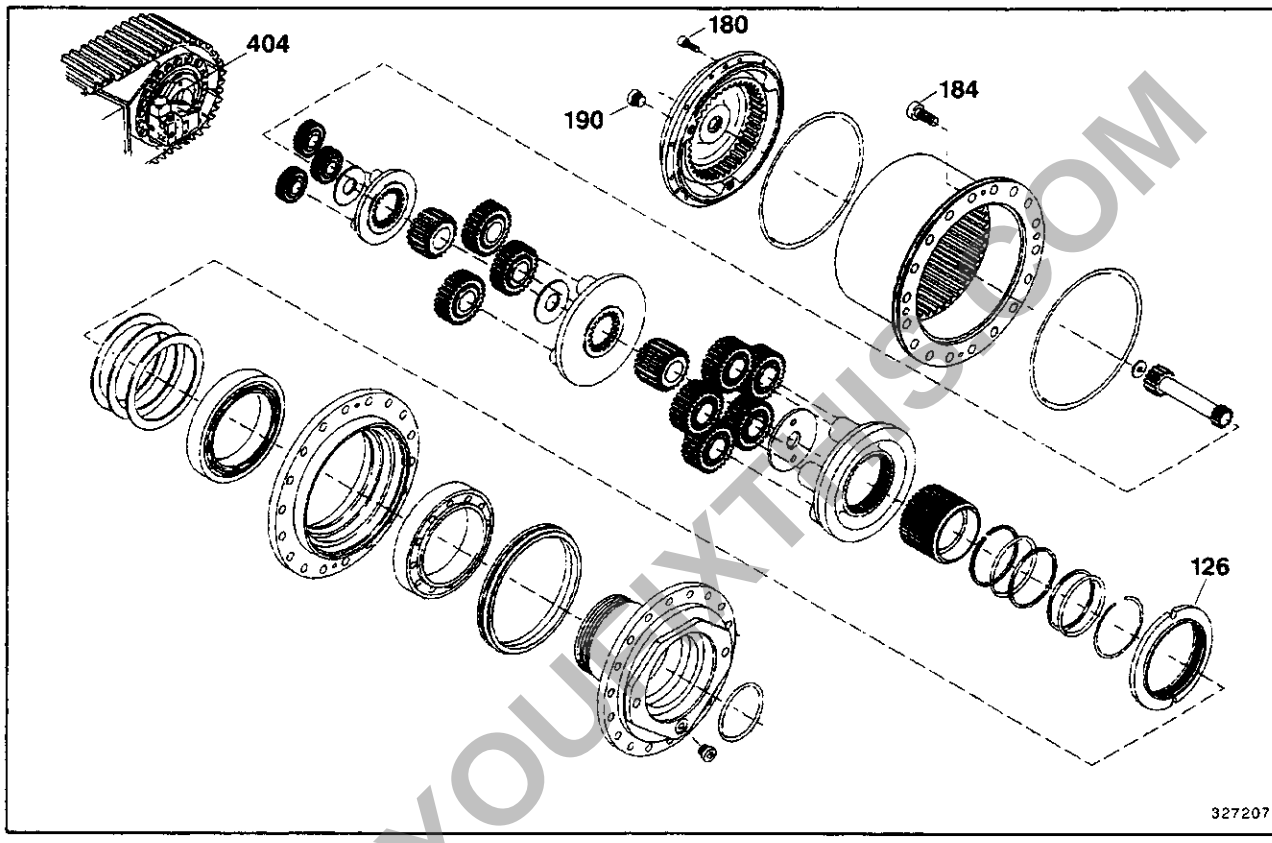


Fig. 3

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Hydraulic components

2800749

The following numbers refer to the circuit diagram P/N 4 530 161.00

Some numbers in the circuit diagram are not listed here, as the components concerned are not of significance to the functioning.

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Schematic symbols (Exerpt from DIN 40900)

2732958

Electrical Connections

——	Direct current (DC)
~	Alternating current (AC)
3 ~	3-phase AC
⊥	Ground, general
30 ——	Positive, unswitched (connection No. 30)
15 ——	Positive, switched (connection No. 15)
31 ——	Negative (ground)
	Moveable cable
	Compilation of cables for easier illustration in circuit diagrams
	Cables cross without connections
	Junction and cross-over, with connection
•	Permanent connection (solder point)
○	Non-permanent connection, general (terminal or plug)
	Socket (female), pole of a socket
	Plug (male), pole of a plug
	Cable harness
	Shielded line with connection to ground

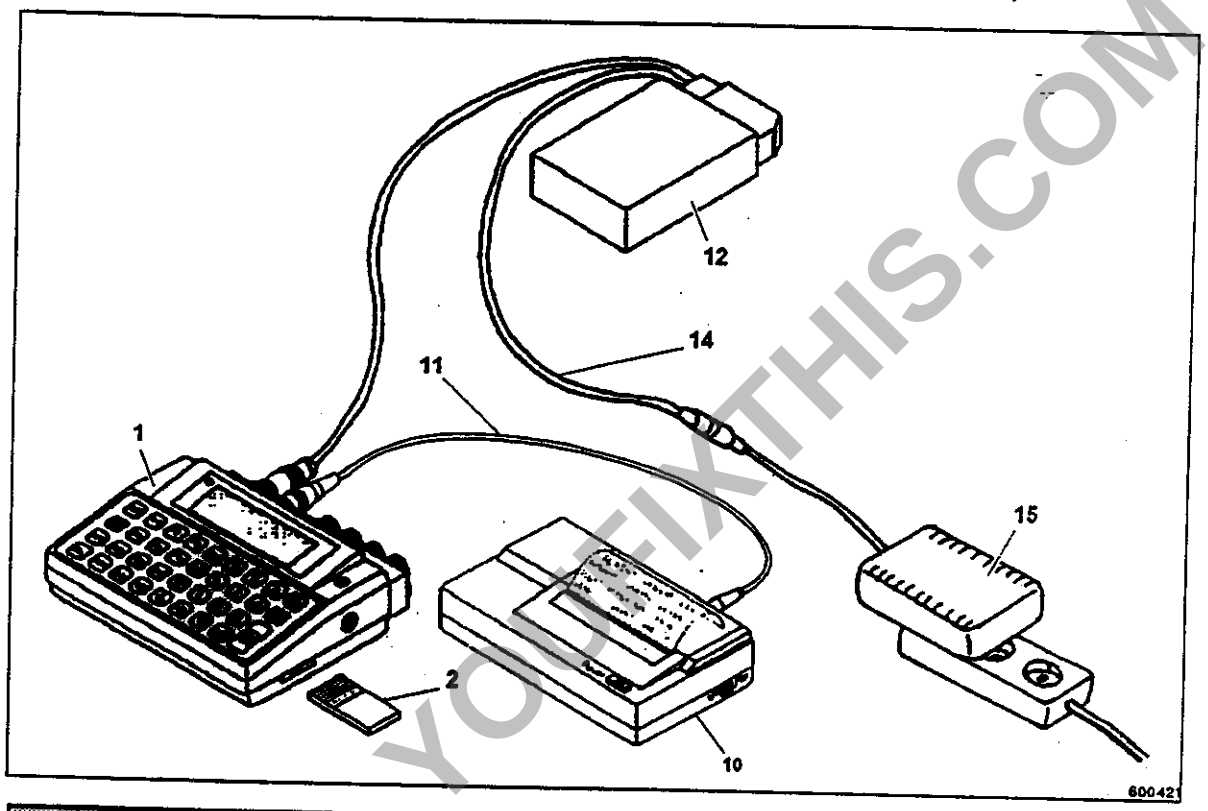
3282071

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Configuration 2

For programmingthe ODC and for test and training purposes (outside the excavator).



Item		Description	Ref. No.
1	EDS tester with carrying bag	Diagnostic computer for PCS and excavator diagnosis.	2781230
2	RAM card	Plug-in card containing the operating program of the EDS tester (all user languages).	2781231
10	Printer	To print measuring values, error messages, equipment data etc.	
11	EDS-to-printer cable	To connect the printer with the EDS computer.	2205847
12	Load sensing device (ODC)	Controller in the PCS, to control the load between the Diesel drive engine and the operating hydraulic system pumps.	
14	EDS-ODC supply cable	For voltage supply of the EDS tester and the ODC as well as for serial data communication between the EDS and the ODC.	
15	Mains adapter	For voltage supply of the EDS tester and the connected ODC through the 220/110 V AC local mains.	

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Braking and stopping 2472326

Braking travelling movement

The machine brakes the travelling movement and stops as soon as the travel pedals are released.

The travel pedals return to the middle position automatically.

Parking brake / travel

The multi-disc brakes in the travel gear units operate as parking brakes.

They are actuated automatically when the machine is at a standstill. When the travelling movement starts they are released automatically. □

Altering travelling speed 2732716

- Deflect travel pedals (61, 63, Fig. 4) or
- Adjust engine speed using potentiometer (45).

High engine speed or increased deflection of drive pedals causes higher travelling speed.

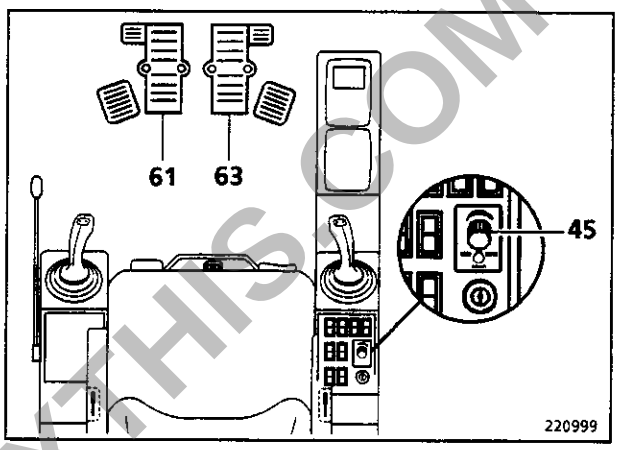


Fig. 4

Activating fast gear

The travel motors can be switched to a second stage (fast gear). The machine then reaches a travelling speed of approx. 5 km/h (3.1 mph).

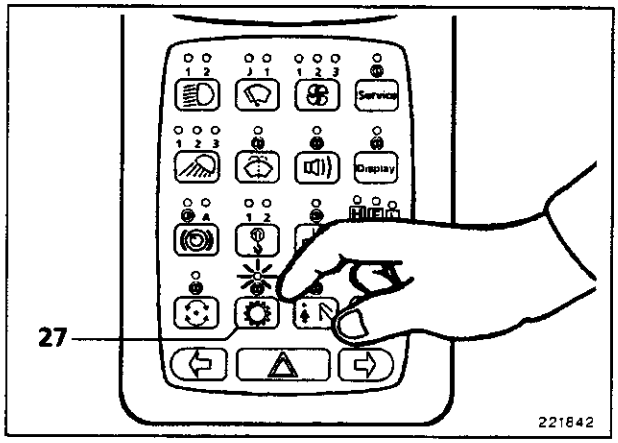


Fig. 5

- Activating fast gear:
  Depress key (27, Fig. 5) on the control panel once, LED I lights up.
- Deactivating fast gear:
  Depress key (27) until the LED does not light.

□

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Checking the engine oil level / topping up with oil

2732733

- Park machine on a horizontal surface and secure against inadvertent movements.
- Wait at least 5 minutes after shutting off the engine to check the lubricating oil. This allows time for the lubricating oil to drain to the oil pan.

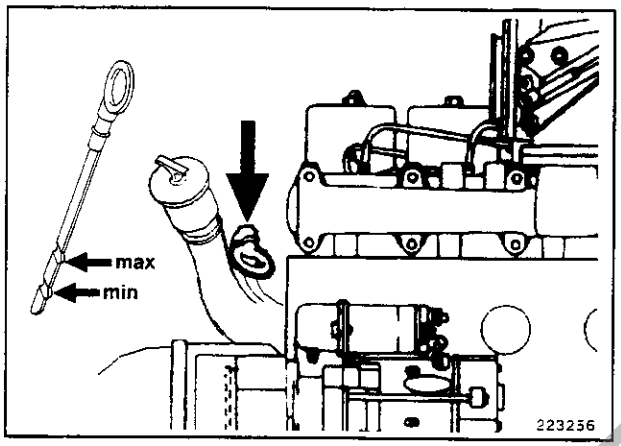


Fig. 1

- Withdraw dipstick (Fig. 1) and wipe clean with a clean, lint-free cloth and re-insert.
- Draw out oil dipstick once again, check the oil level and top up oil through the filler tube (Fig. 2) up to the "max" mark (Fig. 1) (oil quality cf. "LUBRICANTS").

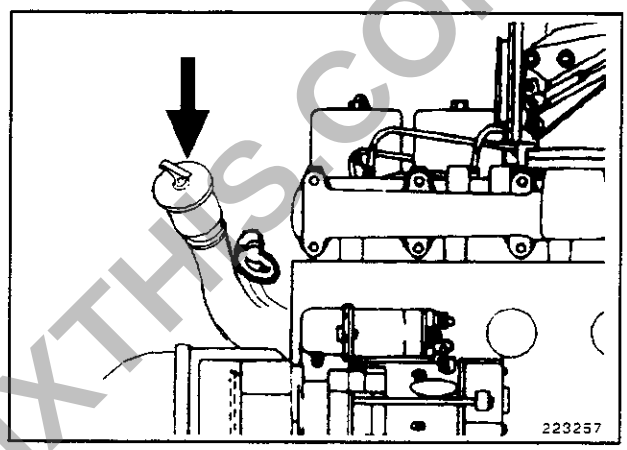


Fig. 2

If the oil level is just above the "min" mark (Fig. 1), the oil level must be topped up.

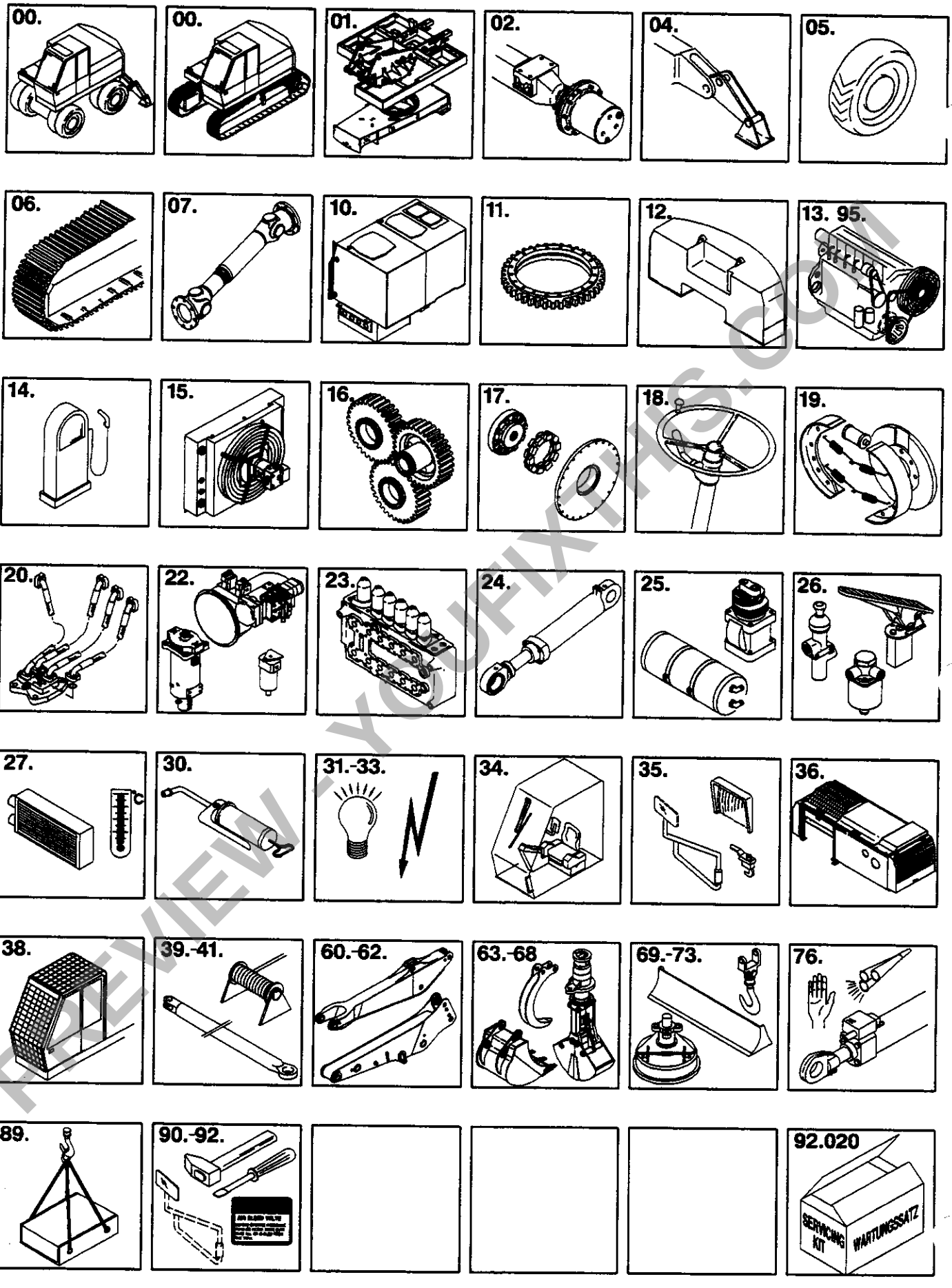
⚠ CAUTION

The oil level must not drop below the "min" mark and must not raise above the "max" mark.

□

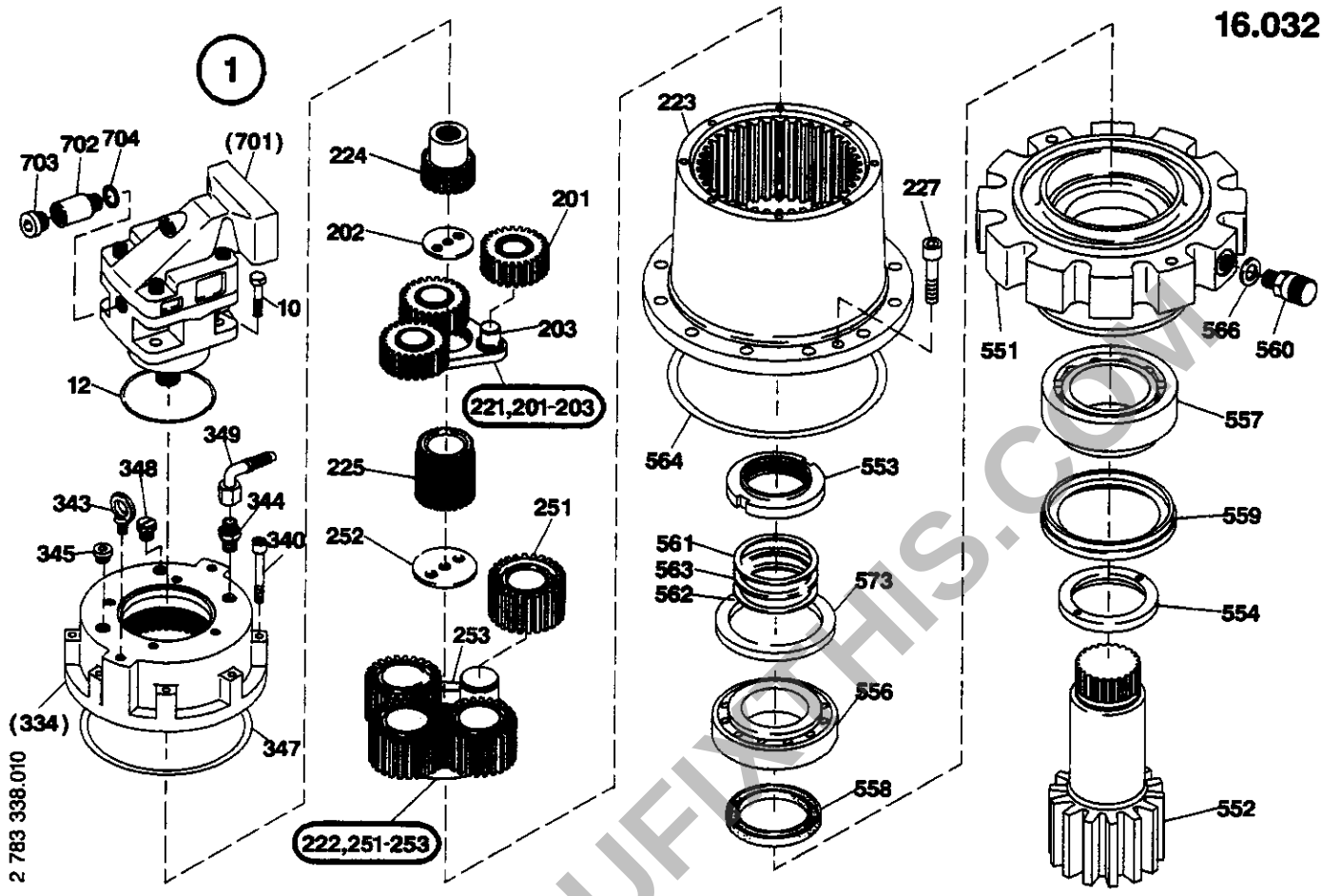
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SLEWING GEAR COMPLETE

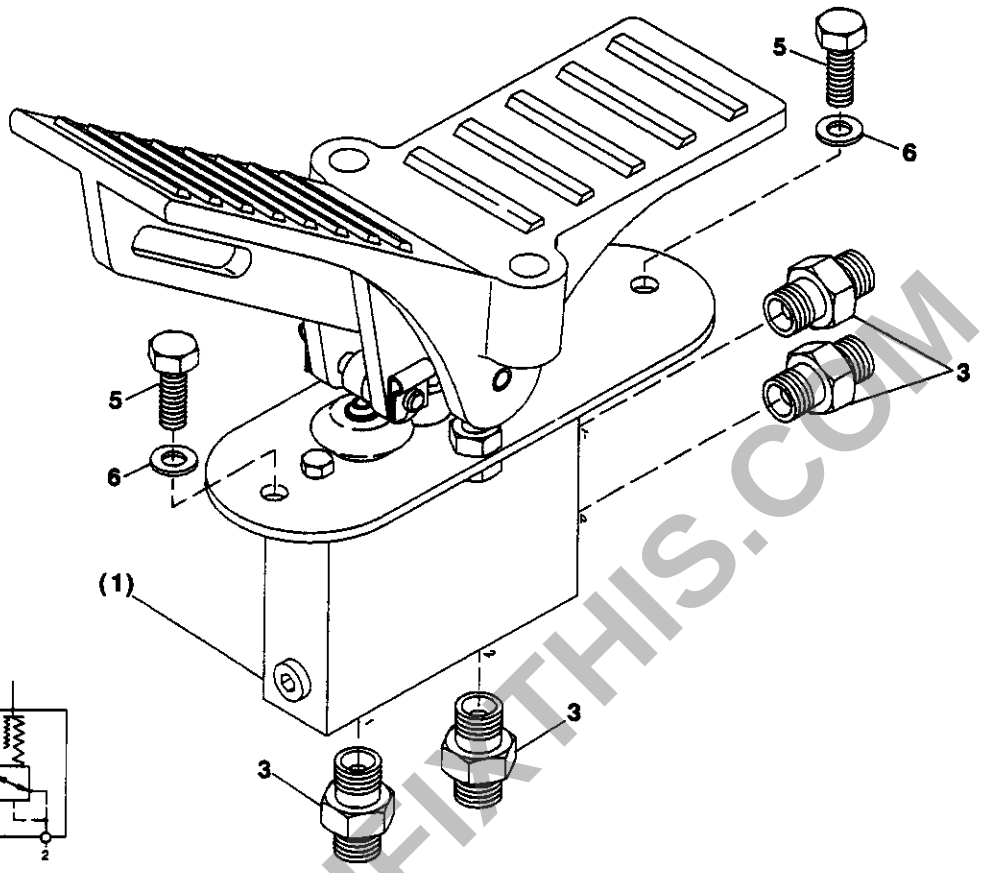
FX140 / 11801 - .....

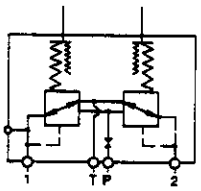
T 2783338 - 000
B 2783338 - 010

Item	Quan.	ME	Part No.	Description
334	1	00		**19.402 2495925** SWING BRAKE
340	8	00	**73175486**	CYL.HEAD SCREW
343	2	00	**73170595**	SCREW
344	1	00	**73170380**	SOCKET
345	1	00	**73170359**	SCREW PLUG
347	1	00	**73170775**	ROUND SEALING RING
348	1	00	**73170597**	SCREW PLUG
349	1	00	**73170598**	PIPE BEND
551	1	00	**73175487**	HOUSING
552	1	00	**73175488**	GEAR PINION
553	1	00	**73175489**	NUT
554	1	00	**73175490**	RING
556	1	00	**73175491**	TAP.ROLLER BEARING
557	1	00	**73175492**	TAP.ROLLER BEARING
558	1	00	**73175493**	ROT.SHAFT LIP SEAL
559	1	00	**73175494**	SEALING RING
560	1	00	**73170607**	SCREW PLUG

ME: 00 = Stück/piece 13 = m 26 = m^2 39 = m^3 43 = kg 50 = l (litre)

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2 496 573.010

TREADLE VALVE INSTALL.MATERIAL

23.290

FIATALLIS

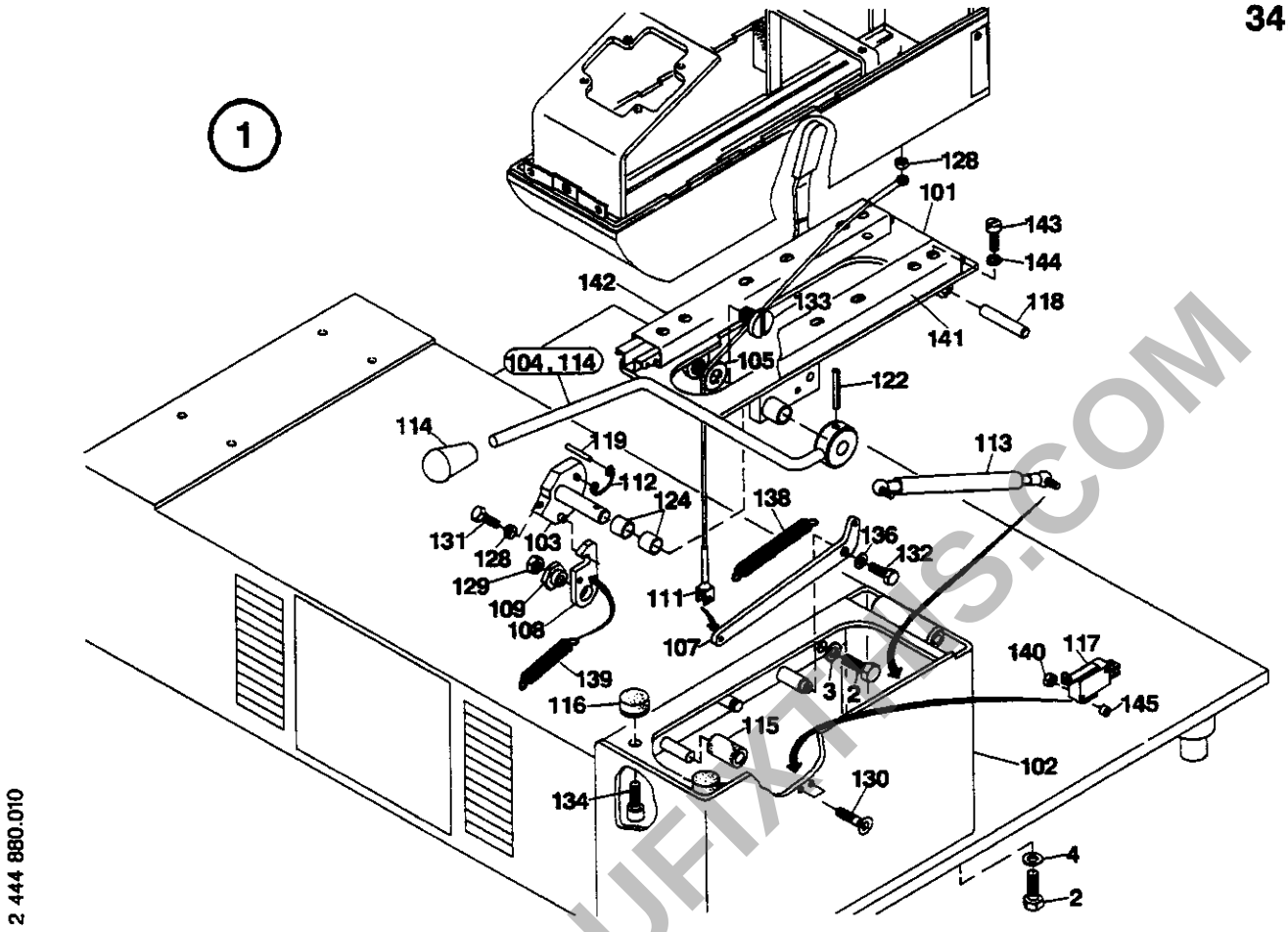
FX140 / 11801 - .....

T 2496573 - 000
B 2496573 - 010

Item	Quan.	ME	Part No.	Description
001	1	00		**23.292 2496572** TREADLE VALVE
003	4	00	**73170380**	SOCKET
005	2	00	**73170205**	HEXAGON BOLT
006	2	00	**73170160**	DISK/WASHER

ME: 00 = Stück/piece 13 = m 26 = m^2 39 = m^3 43 = kg 50 = l (litre)

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34.101

PLATFORM PLATE MOUNTING PARTS

FIATALLIS

FX140 / 11801 - .....

T 2444880 - 002
B 2444880 - 010

Item	Quan.	ME	Part No.	Description
117	1	00	**73171210**	SWITCH
118	1	00	**73171212**	PIN
119	1	00	**73171213**	STRAIGHT PIN
122	1	00	**73171214**	LOCKING PIN
124	2	00	**73171215**	BUSHING
128	1	00	**73170184**	HEXAGON NUT
129	1	00	**73170161**	HEXAGON NUT
130	2	00	**73171216**	CONTER-SUNK SCREW
131	1	00	**73171217**	HEXAGON BOLT
132	1	00	**73170621**	HEXAGON BOLT
133	1	00	**73171218**	SHOULDER BOLT
134	2	00	**73171219**	CYL.HEAD SCREW
136	1	00	**73171220**	DISK/WASHER
138	1	00	**73171221**	CONTROL SPRING
139	1	00	**73171222**	SPRING
140	2	00	**73171223**	HEXAGON NUT
141	1	00	**73171224**	RAIL
142	1	00	**73171225**	RAIL

ME: 00 = Stück/piece 13 = m 26 = m^2 39 = m^3 43 = kg 50 = l (litre)

1998-09-10

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Cross reference

SURVEY | Machine type **FX140** | Machine no.

Part No.	No. of assembly	Item	Part No.	No. of assembly	Item
73171158	34.230 - 2495010	040	73171211	31.050 - 1287563	077
73171159	34.230 - 2495010	041	73171212	34.101 - 2444880	118
73171160	34.230 - 2495010	042	73171213	34.101 - 2444880	119
73171161	34.230 - 2495010	043	73171214	34.101 - 2444880	122
73171162	34.230 - 2495010	044	73171215	34.101 - 2444880	124
73171163	34.230 - 2495010	045	73171216	34.101 - 2444880	130
73171165	34.230 - 2495010	046	73171217	34.101 - 2444880	131
73171166	34.230 - 2495010	047	73171218	34.101 - 2444880	133
73171168	34.230 - 2495010	049	73171219	34.101 - 2444880	134
73171169	31.510 - 2496871	001	73171220	34.101 - 2444880	136
73171170	31.510 - 2496871	002	73171220	36.010 - 2783736	412
73171171	31.510 - 2496871	003	73171221	34.101 - 2444880	138
73171172	31.510 - 2496871	005	73171222	34.101 - 2444880	139
73171173	31.510 - 2496871	007	73171223	34.101 - 2444880	140
73171173	31.510 - 2496871	032	73171224	34.101 - 2444880	141
73171174	31.510 - 2496871	020	73171225	34.101 - 2444880	142
73171175	31.510 - 2496871	031	73171226	34.101 - 2444880	143
73171176	31.510 - 2496871	035	73171227	34.101 - 2444880	145
73171177	90.100 - 2496594	001	73171228	34.140 - 2444887	001
73171178	90.100 - 2496594	002	73171229	34.140 - 2444887	010
73171179	90.100 - 2496594	003	73171230	34.140 - 2444887	011
73171180	90.100 - 2496594	005	73171231	34.140 - 2444887	012
73171181	34.210 - 2443232	001	73171231	34.140 - 2496981	012
73171182	34.210 - 2443232	006	73171232	34.140 - 2444887	014
73171183	34.100 - 1908540	001	73171232	34.140 - 2496981	014
73171184	34.100 - 1908540	002	73171233	23.270 - 2496569	006
73171186	34.100 - 1908540	003	73171233	23.270 - 2496571	006
73171187	34.100 - 1908540	004	73171233	34.140 - 2444887	016
73171188	34.140 - 2444887	003	73171233	34.140 - 2496981	016
73171188	34.140 - 2496981	003	73171234	34.140 - 2496981	001
73171188	34.500 - 2782534	101	73171235	34.140 - 2496981	011
73171189	34.105 - 2495303	018	73171236	34.022 - 2444904	607
73171190	34.130 - 2496286	001	73171239	31.600 - 2496982	001
73171191	34.131 - 2444891	001	73171240	31.600 - 2496982	002
73171192	34.131 - 2444891	006	73171241	31.600 - 2496982	003
73171193	34.131 - 2444891	101	73171245	31.600 - 2496982	007
73171194	34.131 - 2444891	102	73171245	31.600 - 2496982	012
73171195	34.101 - 2444880	001	73171245	31.600 - 2496982	017
73171196	34.101 - 2444880	101	73171245	31.600 - 2496982	022
73171197	34.101 - 2444880	102	73171245	31.600 - 2496982	027
73171198	34.101 - 2444880	103	73171245	31.600 - 2496982	032
73171199	34.101 - 2444880	104	73171245	31.600 - 2496982	042
73171200	34.101 - 2444880	105	73171246	31.600 - 2496982	101
73171201	34.101 - 2444880	107	73171247	31.600 - 2496982	102
73171202	34.101 - 2444880	108	73171247	35.040 - 2783728	005
73171203	34.101 - 2444880	109	73171249	34.141 - 2444874	001
73171204	34.101 - 2444880	111	73171250	34.141 - 2444877	027
73171205	34.101 - 2444880	112	73171251	23.232 - 1998158	001
73171206	34.101 - 2444880	113	73171252	23.232 - 1998158	003
73171207	34.101 - 2444880	114	73171253	23.232 - 2249696	001
73171208	34.101 - 2444880	115	73171254	23.232 - 2249696	008
73171209	34.101 - 2444880	116	73171255	23.232 - 2249696	009
73171210	34.101 - 2444880	117	73171256	23.232 - 2249696	014

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Temperatur - Einheiten und Umrechungsformeln
Units of temperature and conversion formulas

Einheiten Units		Umrechnung in Conversion into			
Benennung Nomenclature Kurzzeichen Symbol		K	°C	°R	°F
Kelvin	K	1	(K-273,16°)	4/5 (K-273,16°)	9/5 (K-273,16°) + 32°
Celsius	°C	°C + 273,16°	1	4/5 °C	9/5 °C + 32°
Réaumur	°R	5/4 °R + 273,16°	5/4 °R	1	9/4 °R + 32°
Fahrenheit	°F	5/9 (°F-32°) + 273,16°	5/9 (°F-32°)	4/9 (°F -32°)	1

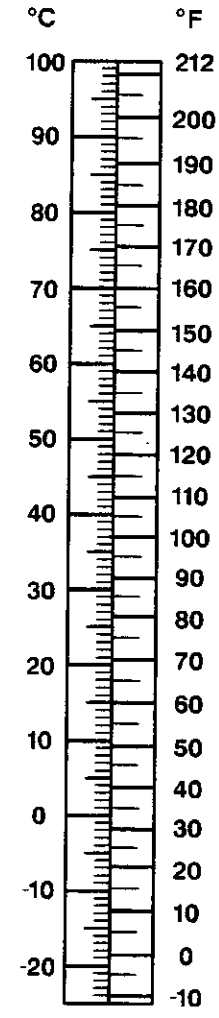
Beispiel: Umrechnung von °R in °C : °C = 5/4 °R
Example: Conversion from

Die Grundeinheit der Temperatur ist Kelvin (K).
The fundamental temperature unit is the Kelvin (K).

Als Formelzeichen wird T verwandt.
The symbol used is the T.

Die ebenfalls benutzte absolute Temperatur degree (Grad) Rankin errechnet sich zu:
The equally used Rankine temperature scale for absolute temperatures is related to K as follows:

°Rank = 9/5 K.



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Track pads

2796433

Replacing track pads

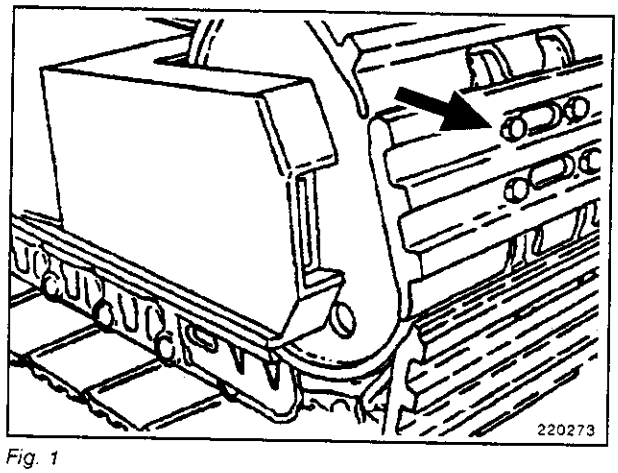


Fig. 1

Replace worn or damaged crawler shoes immediately to prevent damage to the crawler unit.

- Screw out screws (Fig. 1) and remove damaged crawler shoe.
- Smooth and clean bearing surfaces of crawler chain and new crawler shoe.
- Apply paraffine oil to bearing surfaces and then apply silicon corundum powder, grain 120 - 150.

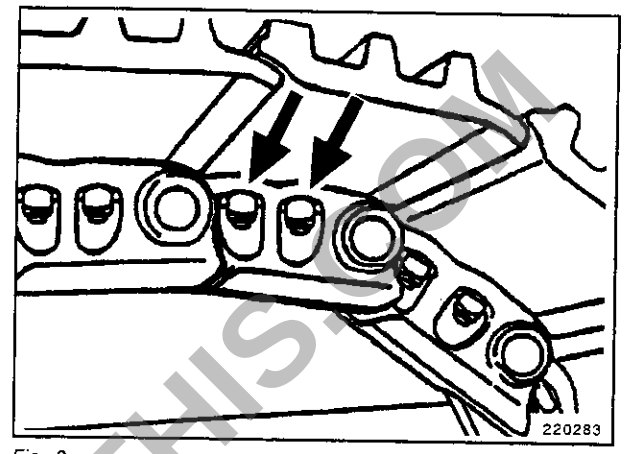


Fig. 2

- Screw new crawler shoe on. Ensure that the nuts are correctly seated in the grooves in the chain link (Fig. 2).
- Tighten the fastening screws of the crawler shoe using a torque wrench. □

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Table 1

Gearbox Model: F 17, F 20, F 25, F 30

Screw Item	Thread (mm)	Quality	Tightening Torque M_A Nm (lbft)	Screw Locking P/No. 73171473
126	M 135 x 2	-	-	1)
180	M 8	12.9	40 (30)	X
184	M 12	8.8	94 (69)	X
190	M 16 x 1,5	-	35 (25)	-
404	M 16	8.8	230 (170)	X

1) Lock slotted round nut by staking.

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Hydraulic pumps and hydraulic motors

Dual variable displacement pump:

Vent dual variable displacement pump after each oil change or pump replacement.

Unscrew screw plug (1, Fig. 3) and wait until bubble-free oil emerges at the drilled hole of the screw plug. Then screw in screw plug again.

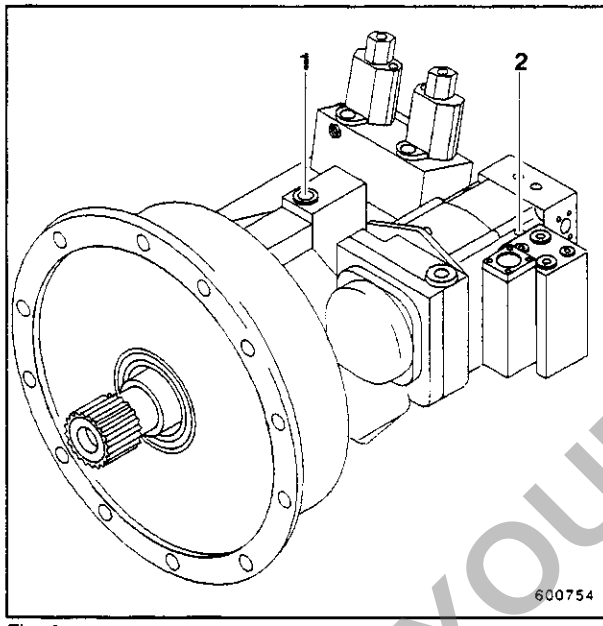


Fig. 3

Swing pump:

Vent swing pump after each oil change or pump replacement.

Fill in clean hydraulic oil through the T-connection (2) after removing the line. Then install line again.

Vent feed pump by loosening the suction line when the engine is stationary. Retighten the suction line when the oil is free from bubbles.

Gear pumps:

Vent gear pumps after each installation by slackening (engine stationary) the threaded union on the suction side at the fan drive pump. When bubble-free oil emerges, tighten union again.

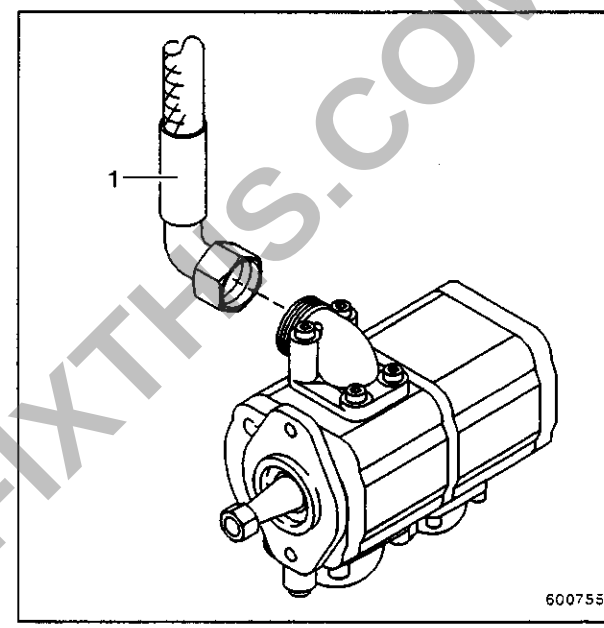


Fig. 4

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Assembly:

The element used to seal off the piston is the OK piston seal (21, Fig. 14).

The OK piston seal comprises:

- the stepped plastic sealing ring (21.1) and
- the square-shaped tensioning ring (21.2, Fig. 15).

• Insert the tensioning ring (21.2) in the groove provided for this purpose:
  - Place the tensioning ring over ca. 1/5 of its length into the groove.
  - Slide a smooth, round rod under the tensioning ring (Fig. 15) and guide the tensioning ring towards the groove by running the rod round the piston in the direction of the arrow.

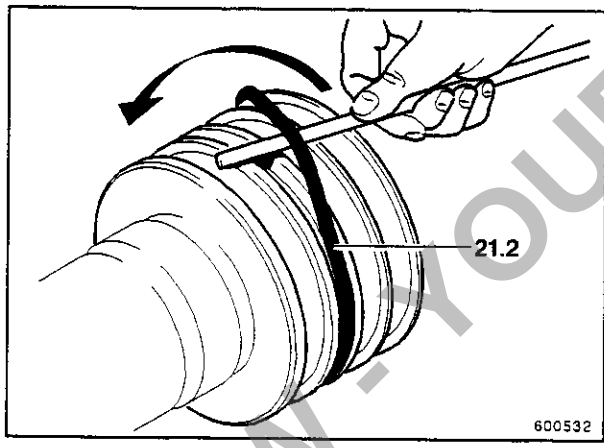


Fig. 15

  - Withdraw the rod only after the tensioning ring lies torsion-free and straight in the groove (Fig. 16).

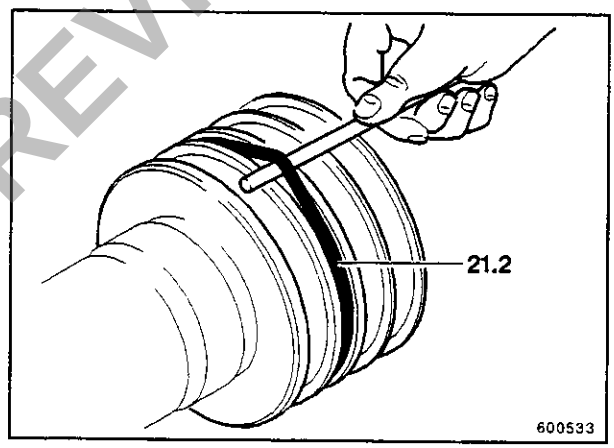


Fig. 16

• Install the guide rings (20, Fig. 17).

The joints of the guide rings must be offset by 180° with respect to one another.

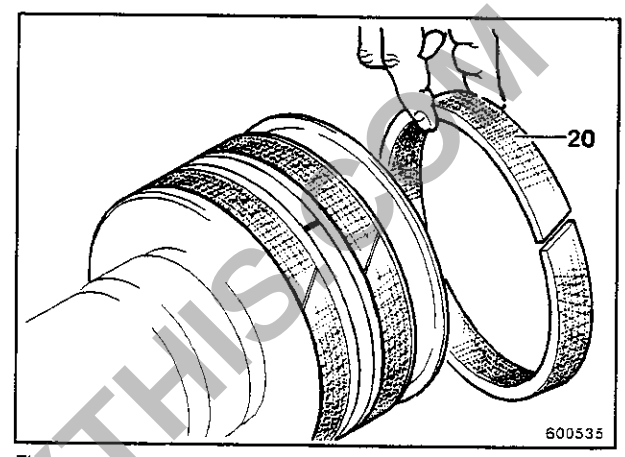


Fig. 17

• Insert the sealing element (21.1, Fig. 18) of the OK piston seal.

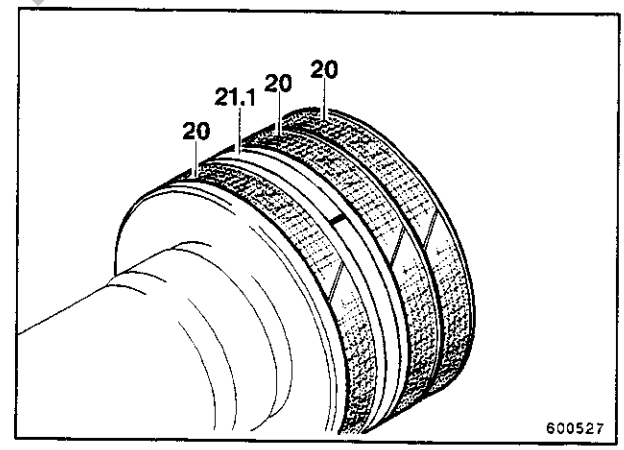


Fig. 18

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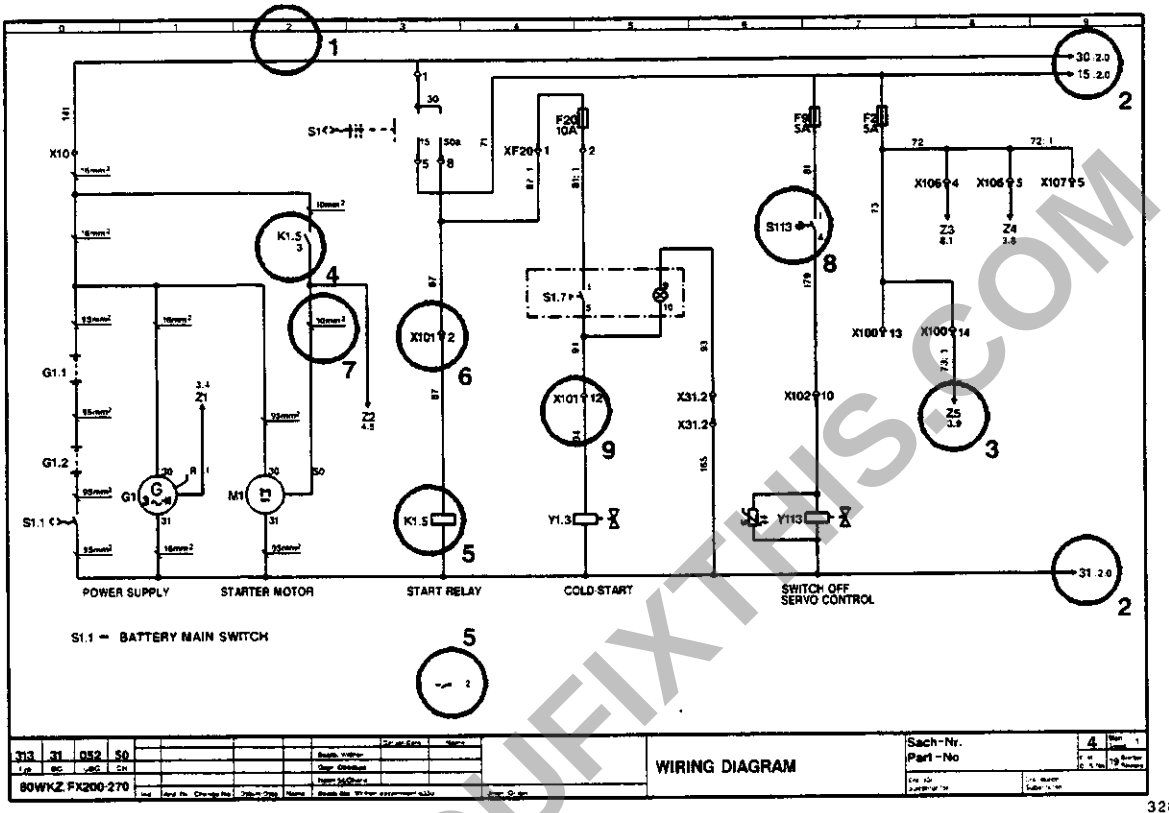


Fig. 2

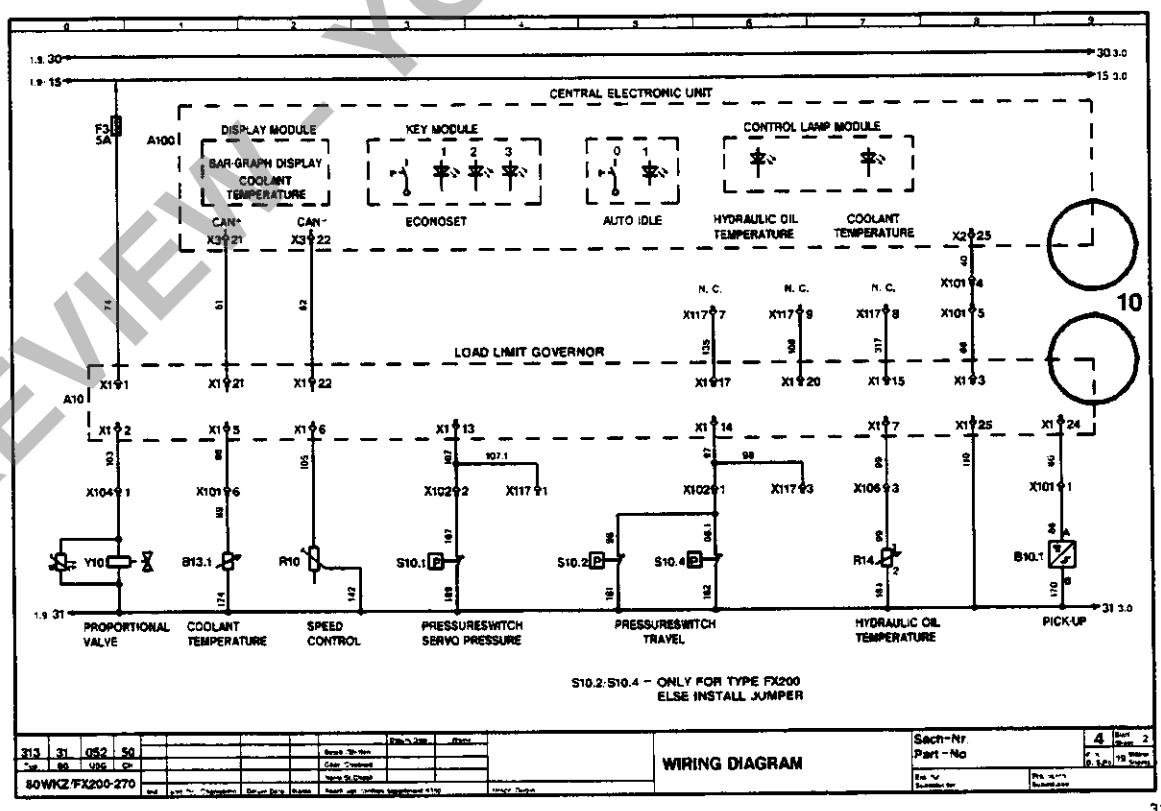


Fig. 3

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The layout plan (Fig. 1) shows the location of all PCS-related components of the machine.

- Control Panel
- Central electrical system
- On-Board Computer
- Actuators
- Sensors
- Switches
- Connectors
- Measuring points

⚠ CAUTION

Modifications reserved.

Locations and components in some types of machines may slightly deviate from those shown in the layout plan (Fig. 1).

The indications in the spare-parts documentation of the machine are binding.

For abbreviations please refer to "PCS III functional diagram".

Locating and rectifying faults

In order to be able to rectify faults systematically, it is necessary to study first the location and the arrangement of components and assemblies (Fig. 1) to gain an overview of the complete PCS III system.

Then, track down the lines and connectors with the help of the circuit diagram in the machine documentation and check the power supply and the sensor signals.
A good ground connection is always of prime importance as, for instance, the grounding terminal in the central electrical system (Fig. 3).

Further instructions in the event of malfunctions

If too high temperatures are detected it is necessary to check the thermostats, fan blades and the combined radiator.

In the event of cable and/or connector problems the continuity of the line (broken cable) must be checked and the leakage resistance measured with a multimeter.

Temperature probes must have an ohmic resistance of more than 20 ohms and less than 8 kiloohms when measured with a multimeter.

The **proportional valve** has an ohmic resistance of less than 30 ohms and more than 15 ohms.

The **pressure-operated switches DSL (S10.1) and DSF (S10.2)** always work as break contact elements.

The **pickup signal** must be greater than 3 volts when the engine is running and have a frequency of between 100 - 5000 Hz.

⚠ CAUTION

If the cause of intermittent failures (reduced machine performance) cannot be clearly defined, always check the digital rpm indication on the Control Panel display first.

With the engine in no-load condition, the speed should not vary by more than 20 - 30 rpm.

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STARTUP

- Establish connections as shown in the connection diagrams.
- Insert the RAM card.
- Turn on the ignition.
- Switch on the EDS tester with the key.

Normally, the EDS tester starts with the main menu. Exceptions are described in the following.

New RAM Card

```
Sprachmodul Grundeinstellung
<F1> deutsch        <F4> francais
<F2> english        <F5> italiano
<F3> espanol

Bitte Sprachmodul wählen :
```

A new RAM card must be initialised for its first use, i. e. a menu language must be selected. To select the desired language, use the F1 to F5 keys.

```
Sprachmodul Grundeinstellung
<F1> deutsch        <F4> francais
<F2> english        <F5> italiano
<F3> espanol

Sie haben <F2> = english gewählt?
Bitte Bestätigen  <1> ja  <0> nein
```

Confirmatory query:

1 (yes) to confirm the language selected, 0 (no) to select again.

Start without RAM Card

```
A t t e n t i o n !!!

Problem with Memory-Card.
Alternativ Program starts.
   (cannot store data)

press any key
```

If no RAM card is inserted into the EDS tester, the selection of a language as described above will also be necessary. However, there will be no confirmatory query. After the selection of a language, the opposite message will appear.
A program version firmly loaded into the tester will be started.

COM Test (Communication Test)

```
COM - test
PCS          : 1
contr.panel: 1
Printertyp : Epson P40

please wait ...
```

Before starting the user-prompting software, the program will make a communication test with the connected load sensing device (ODC) and the control panel. All components, the EDS, ODC and the control panel, are connected with one another via a serial data bus (when the tester is connected on the excavator).

Communication is ok.

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Flange coupling hose / connection surface

Fig. 1 shows:

1 - Connection surface
2 - Seal ring
5 - Double-hex bolt
9 - Flange half
10 - Hyd. hose with SAE flange fitting

Assembly:

1. Fit seal ring (2) into seal ring groove (see "Seal rings")
2. Push hose (10) up against connection surface. Face of fitting must make contact over whole circumference.
3. Fit the two flange halves (9) one after the other. Screw in bolts (5) as far as possible by hand.
4. Tighten up bolts (5) diagonally to the torques specified. The required torques (final torques) can be found in Table 2.

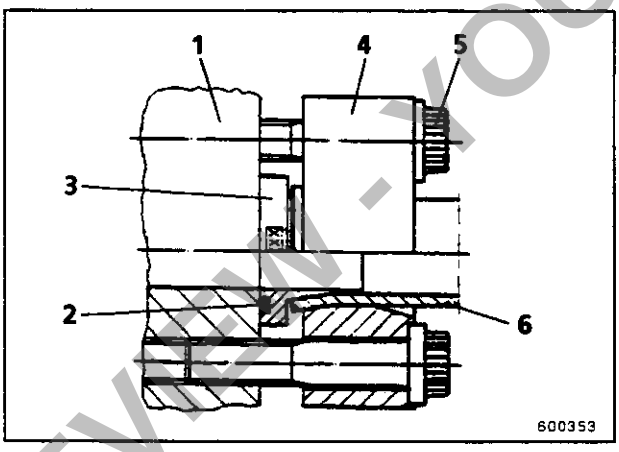


Fig. 1

Table 2: Tightening torques for double-hex bolts

Thread	Wrench size	Tightening torque Nm (lbft)
M 10	11	60 (44)
M 12	13	100 (74)
M 14	15	160 (118)
M 16	19	250 (185)

It is not necessary to check the gap dimension.

In case of leakage:

Tighten up bolts (5) to prescribed torque. Otherwise change seal ring (2).

Flange coupling - pipe / hose

F-system

Fig. 1 shows:

2 - Seal ring
4 - Flange (one-part)
5 - Double-hex bolt
6 - Pipe
7 - F-ring (wedge ring) without seal ring groove[1)]
9 - Flange half
10 - Hydraulic hose with SAE flange fitting
11 - Hex. nut

[1)] If F-ring has a seal ring groove (3, Fig. 3), a centre disk (8) and a second seal ring (2) must be used.

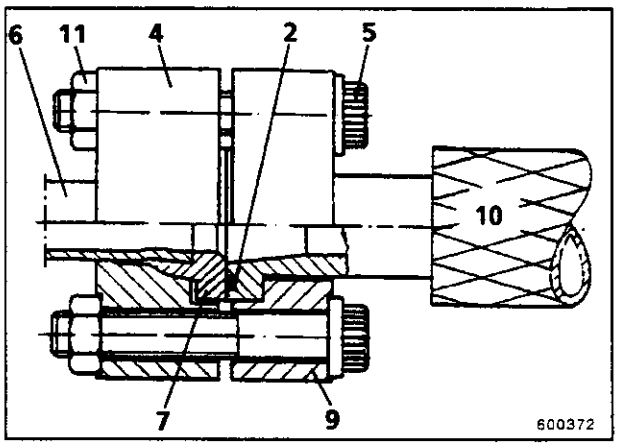


Fig. 2

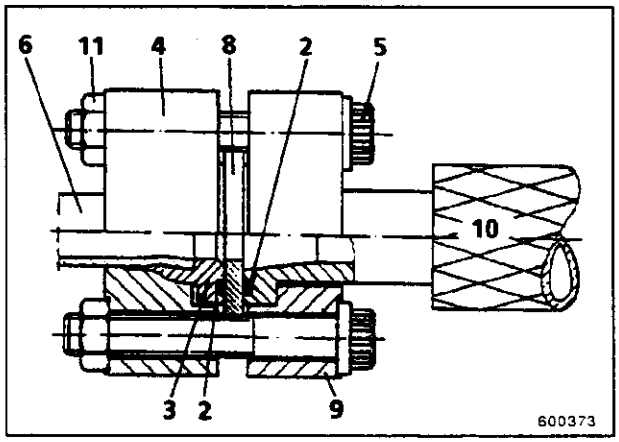


Fig. 3

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4.1.4 Fitting of reinforcing plates

Reinforcing plates should be in full-face contact with the plate to be reinforced, i.e. they should lie as closely as possible against the base plate. The air gap should, if possible, be nil.
For relatively small components and thin plates, the reinforcing plates should be squeezed against the base plate by means of screw clamps (fig. 12).

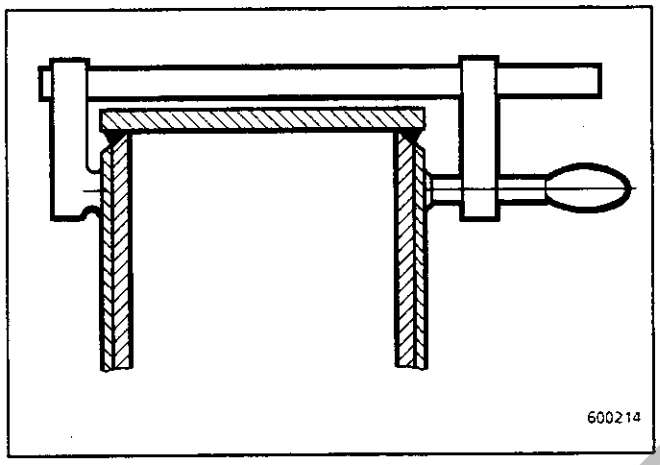


Fig. 12

For larger components and thicker plates, the reinforcing plates should be held in place by wedges (fig. 13).
This is, however, only possible at the edges of plates. Welding and cutting of the wedge holders must be done properly. Never knock off wedge holders with a hammer.

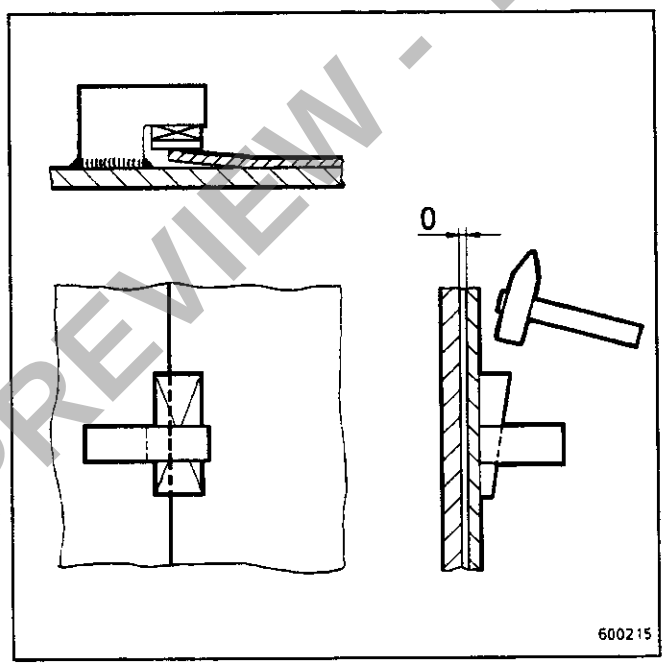


Fig. 13

The central area of plates can be pressed into position by means of bolting (fig. 14).
This is particularly recommended for large plate sections. The studs can be favourably placed near the welding slots.

After tack-welding, the welded-on stud may only be knocked off. The area in the base metal where the studs have been removed must be carefully prepared by grinding before the slot is welded.

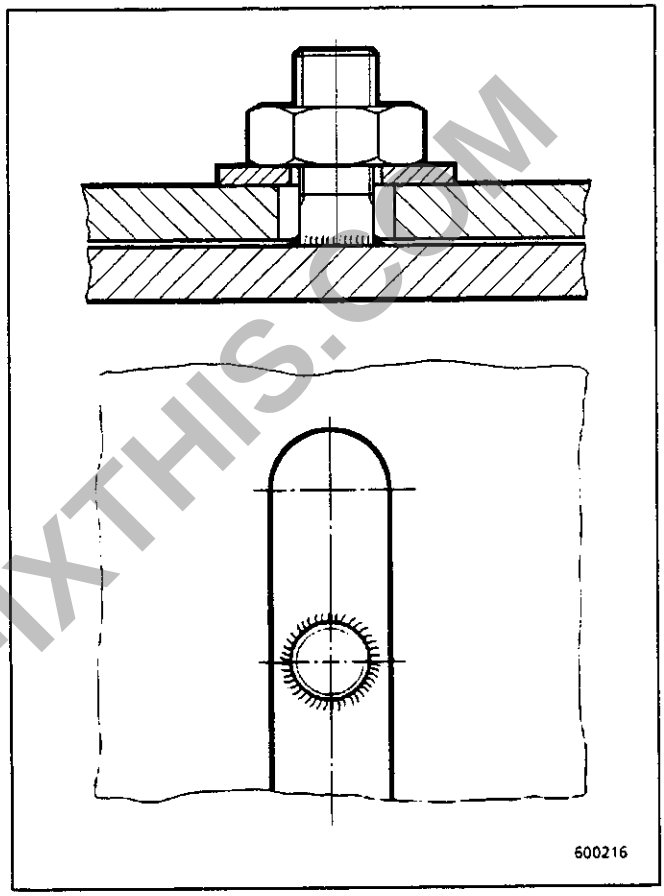


Fig. 14

4.1.5 Weld seams of T-joints

Reinforcing plates in T-joint areas should be welded in such a way that a connection between all 3 plates is formed (fig. 15).

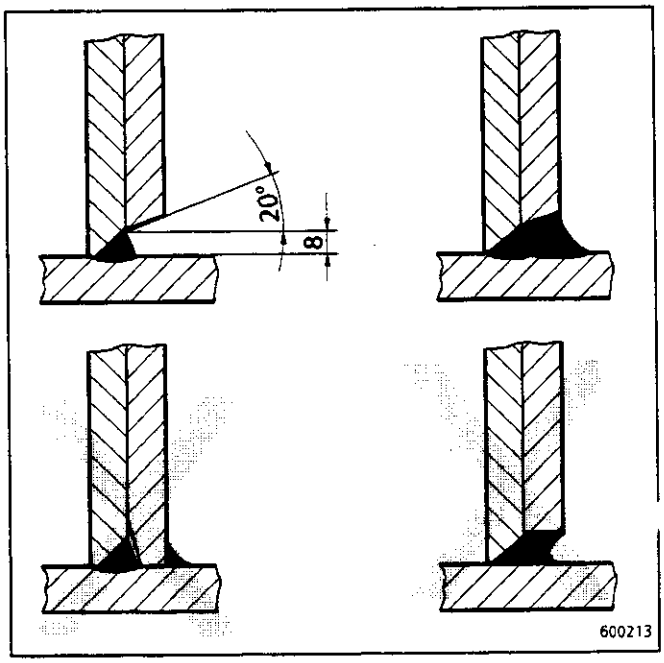


Fig. 15

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