neuson®

SERVICE MANUAL
NEUSON

COMPACT EXCAVATOR
5002 / 6002

Symbol picture

Edition: **February 03**
Id.No.: **9707749**
GB

3. LIFT CAPACITY CHARTS

Tab.: **Lift capacity** - 5002

HUBKRAFTTABELLE

A / B	5,0m		4,0m		3,0m		2,0m	
4,0m	1000*	675			950*	650	950*	1100
3,0m	980*	495			980*	660	1080*	1060
2,0m	1000*	425	1000*	425	1120*	625	1420*	980
1,0m	1040*	380	1050*	450	1300*	575	1855*	880
0,0m	1075*	390	1075*	380	1425*	530	2120*	810
-1,0m	1110*	440			1390*	525	2110*	775	3400*	1550
-2,0m	1140*	600					1650*	800	2650*	1600

max. ..... Zulässige Last bei gestrecktem Löffelstiel
A ..... Ausladung von Mitte Drehkranz
B ..... Lasthakenhöhe
* ..... Hubkraft durch Hydraulik begrenzt

Alle Tabellenwerte sind in kg angegeben, bei waagrechter Stellung auf festem Untergrund und ohne Löffel.
.... mit Planierschildabstützung in Fahrtrichtung
.... ohne Planierschildabstützung 90° zur Fahrtrichtung

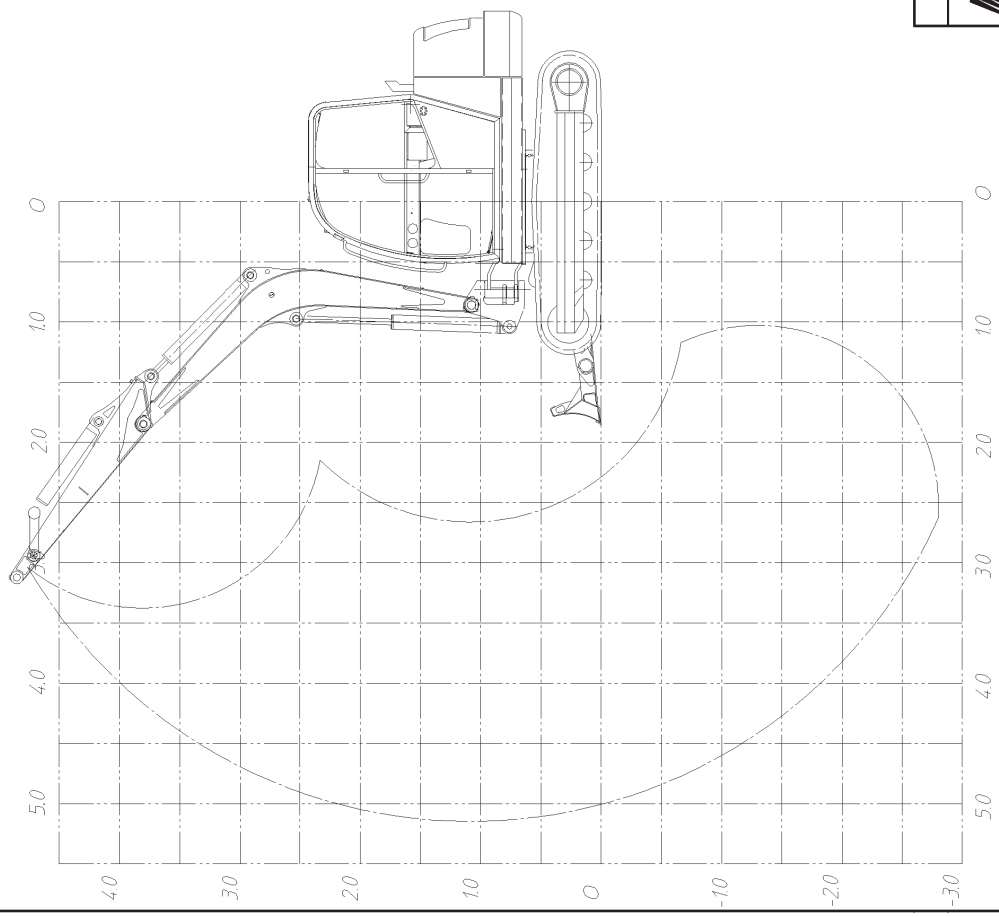
Sofern ein Löffel oder sonstige Arbeitsgeräte angebaut sind, verringert sich die Hubkraft oder Kipplast um deren Eigengewicht.

Berechnungsgrundlage: gem. ISO 10567
Die Hubkraft des Kompaktbaggers ist durch die Einstellung der Überdruckventile und durch die Kippsicherheit begrenzt.
Es werden weder 75 Prozent der statischen Kipplast noch 87 Prozent der hydraulischen Hubkraft überschritten.

neuson

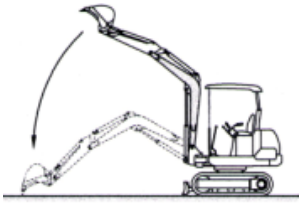
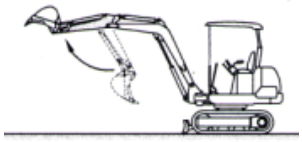
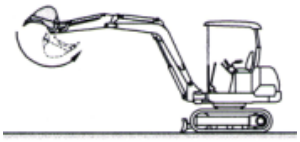
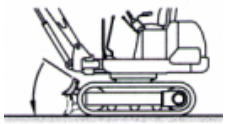
Fläche (mm²) | Gewicht(kg) | Werkst | Maßstab
Blechst.(mm) | Kontur(g mm) | BAGGER 5002 RD
Datum | Name | HUBTABELLE
Bearb. 1998/07/14 HAUER
Gepr.
Norm
ZG.-Nr.: 4411005 | Blatt 2
Ersatz für:

2 neu überarb. 00/06/19 WA
Zust. Änderung Datum Name



Cycle courses - excavators

Hueman / 25. April 03

Machine model				Neuson **5002**		Neuson **6002**	
Classifi-cation	Item	Check conditions	Unit	Value		Value	
				normal	allowed	normal	allowed
WORK EQUIPMENT (**Response time**)	**Boom**	Position for the check  > Engine speed: **Min.** Hydraulic oil temperature: 45 - 55 °C > Retract the dipper stick and bucket cylinders completely. > Lower the boom from its maximum height and measure the time from the moment in which the bucket touches the ground to the moment in which the machine starts lifting.	sec.		---		---
	Dipper stick	Position for the check  > Engine speed: **Min.** Hydraulic oil temperature: 45 - 55 °C > Move the boom to the horizontal position > Retract the dipper stick cylinder completely and then extend it. > Measure the time from the moment in which it starts moving again.	sec.		---		---
	Bucket	Position for the check  > Engine speed: **Min.** Hydraulic oil temperature: 45 - 55 °C > Move the boom to the horizontal position > Retract the bucket cylinder completely, then extend it . > Measure the time from the moment in which the bucket stops at the dead center and the moment in which it starts moving again.	sec.		---		---
	Dozer blade	Position for the check  > Engine speed: **Min.** Hydraulic oil temperature: 45 - 55 °C > Raise the blade to the maximum height and then lower it. > Measure the time from the moment in which the blade touches the ground and the moment in which the machine starts lifting.	sec.		---		---

Hue 5 / 5

CHAPTER **B**:

Maintenance

(Neuson Service Manual 5002 - 6002)

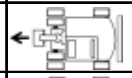
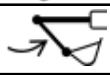
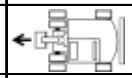
Id.No.: **9707749**
Edition: Feb 03

5002
NEUSON

Fabr.No.:	
Work hrs./Dat.	
Checked:	

PRESSURE CHECK LIST
Neuson Baumaschinen

No: Hue0
Stand: Ju

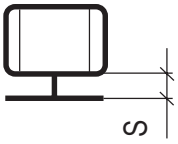
Function	Motion	Symbol	Press.Limit.Valve	Measure point	Setting (1)				Checked:	OK?
PUMP 1										X
Boom	UP		Primary press. Limiting valve PPLV 1 (Main valve block)	Measuring point MP 1 (Main valve block)	Setting	230	bar	+/- 3	>	
					Fall	25	bar		>	
	DOWN				Setting	230	bar	+/- 3	>	
					Fall	25	bar		>	
Bucket	OUT				Setting	230	bar	+/- 3	>	
					Fall	25	bar		>	
	IN				Setting	230	bar	+/- 3	>	
					Fall	25	bar		>	
Drive left	FORWARD				Setting	230	bar	+/- 3	>	
					Fall	25	bar		>	
	BACKWARD				Setting	230	bar	+/- 3	>	
					Fall	25	bar		>	
PUMP 2										X
Dipper stick (Arm)	OUT		Primary press. Limiting valve PPLV 2 (Main valve block)	Measuring point MP 2 (Main valve block)	Setting	230	bar	+/- 3	>	
					Fall	25	bar		>	
	IN				Setting	230	bar	+/- 3	>	
					Fall	25	bar		>	
Drive right	FORWARD				Setting	230	bar	+/- 3	>	
					Fall	25	bar		>	
	BACKWARD				Setting	230	bar	+/- 3	>	
					Fall	25	bar		>	
Auxiliary hydraulics	A				Setting	230	bar	+/- 3	>	
					Fall	25	bar		>	
	B				Setting	230	bar	+/- 3	>	
					Fall	25	bar		>	

Notice:

Notice:

6. HOSE BURST PROTECTION VALVE

Gap dimensions of hose burst valves



The European Safety Regulations provide for the installation of hose burst protection facilities in dozer blade cylinders and in tilting cylinders.
If such valves are missing, there will be liability problems in case of an excavator accident.

SETTING of GAP DIMENSION „ **S** „ :

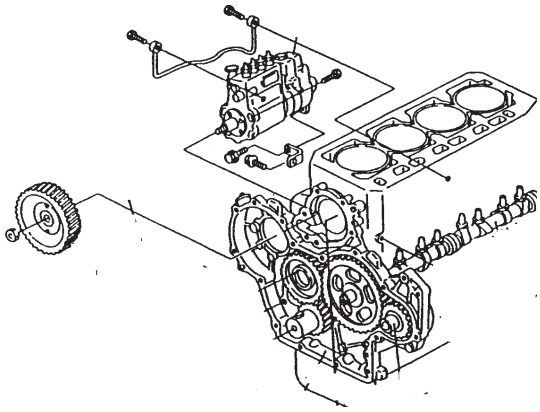
1. Loosen the two nuts.
2. Adjust the gap S by means of a gauge for the relevant type of excavator (see Chapt. Technical Data).
3. Tighten the nuts lightly by hand and fix them cautiously against each other

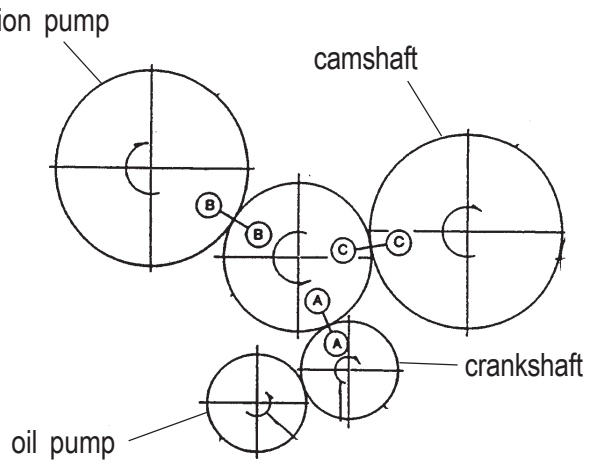
Injection Pump

> DISMANTLING / INSTALLATION :

The injection pump is driven directly via spur wheels from the crankshaft.
Prior to dismantling the pump dismantle the spur wheel.

Take care to align the relevant markers of the spur wheels correctly! (see schematic)



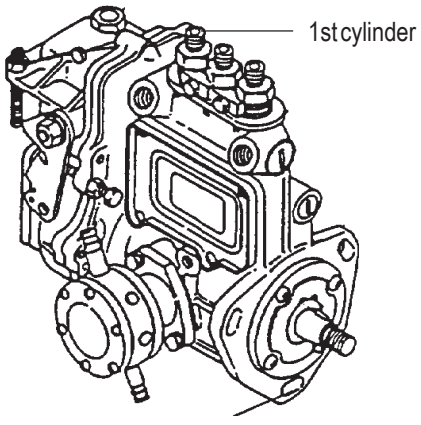


Moment of Injection

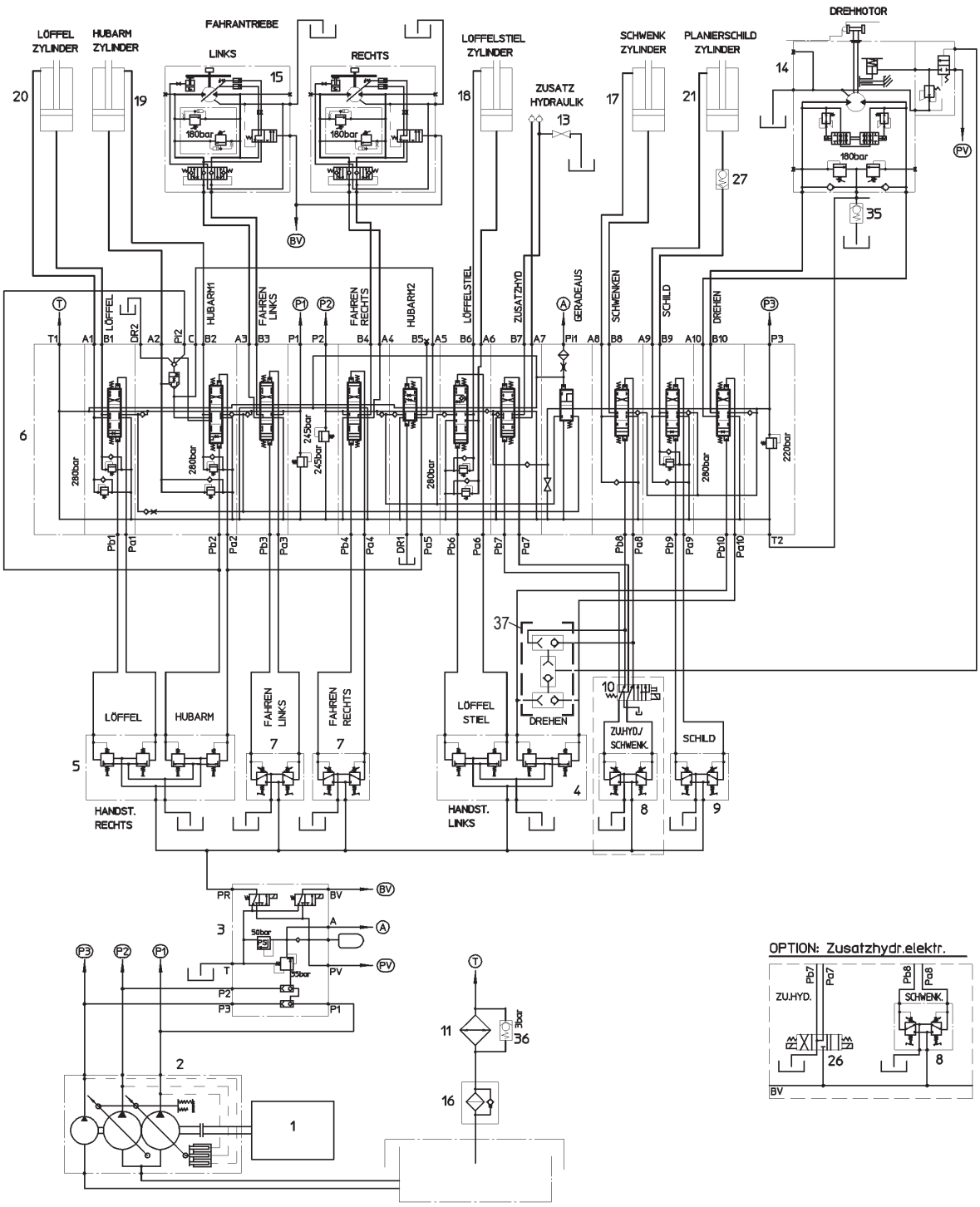
> Direct injection:

1. Dismantle injection pipe for 1st cylinder.
   Cylinders are always numbered starting from the flywheel side.
2. Turn engine clockwise (from the water-cooler point of view) at the crankshaft, until fuel emerges from the bottom valve of the injection pump.
3. Remove rubber cover at the flywheel case and read moment of injection by the marker at the flywheel and flywheel case.
4. If the markers don't correspond, the moment of injection must be corrected by turning the injection pump.

   Moment of injection too late: turn pump away from engine
   Moment of injection too early: turn pump towards engine



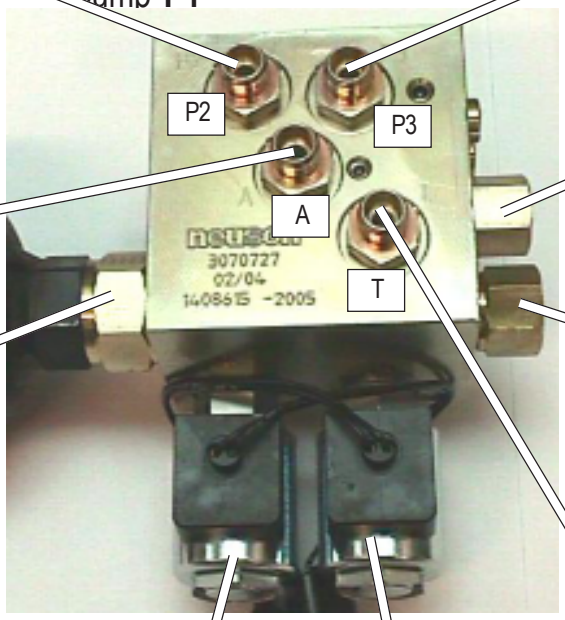
longitudinal slots for turning the injection pump



P1 ... 245bar, 58.8L/min
P2 .. 245bar, 58.8L/min
P3 ... 220bar, 44.1L/min
n = 2100 min-1

neuson Baumaschinen	Werkst.	Gewicht(kg)	Maßstab		
			BAGGER 6002 RD		
	Datum	Name			
	Gepr.	1999/05/17 GATT	HYDRAULIKSCHALTPLAN		
	Norm.				
			ZG.-Nr.: 5111044		Blatt
Zust. Aenderung	Datum	Name	Ersatz fuer		BV

Fig.: **Port assignment** of control oil unit 5002 - 6002
(version 1408610 / 1408615)



port P2 << variable displacement pump **P1**

port P3 << variable displacement pump **P2**

(1) safety valve

port A >>
drive counter-balancing system main valve block

port SP >>
accumulator

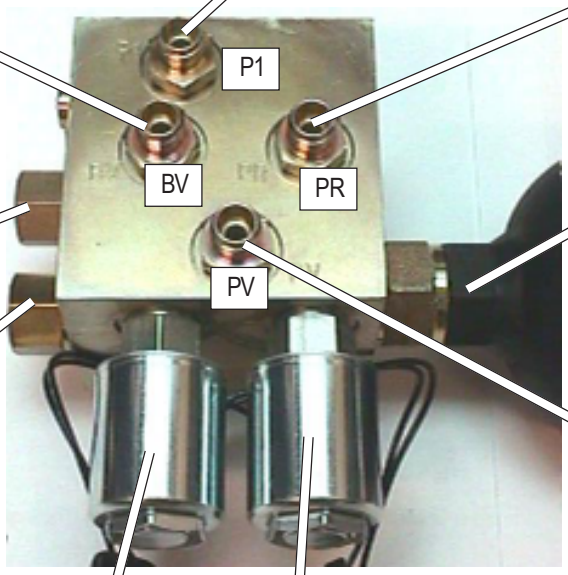
(3) pressure reducing valve
(**AP**)
- version 1408615 :
metal cap with ring -
see page C15

port T - tank

WK 1

WK 2

port P1 << gear pump **P3**



port BV >>
pilot control valves

port PR (PT) >>
drive unit

port SP >>
accumulator

(1) safety valve

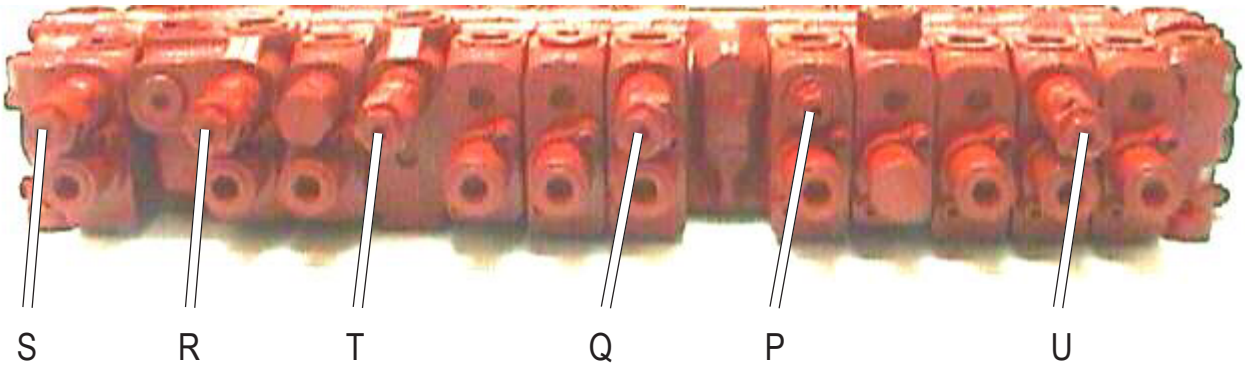
port PV

(3) pressure reducing valve
(**AP**)

WK 2

WK 1

Fig.: **Main valve block** 6002 - view B



P stopper auxiliary hydraulics (option secondary valves)
Q shock suction valve dipper stick cylinder
R shock suction valve boom
S shock suction valve bucket
T primary pressure limiting valve **P2**
U shock valve dozer blade cylinder bottom side

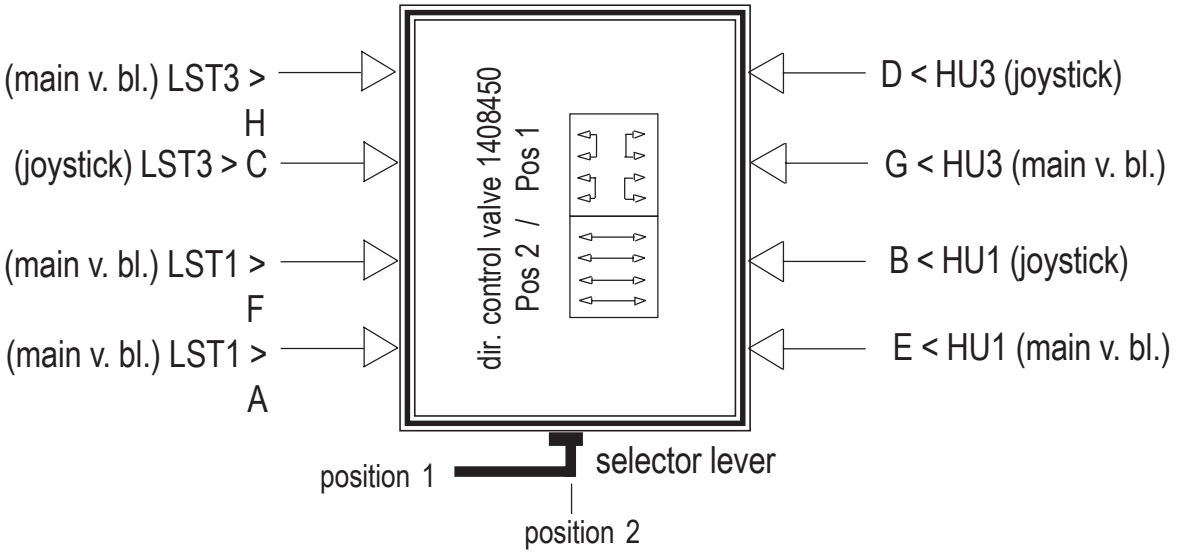
6. **PILOT CONTROL VALVES** - Assignment Option: **Switch Valve**

Neuson **5002 - 6002**

Function: Via **selector lever at the directional control valve** the assignment of the joysticks may be reversed.

Pos. 1:	joystick right - boom	joystick left - dipper stick
Pos. 2:	joystick right - dipper stick	joystick left - boom

Fig.: **Port assignment** / mounting position - directional control valve 5002 - 6002



Joystick left

LST 3	dipper stick out	->	joystick pos. 3
LST 1	dipper stick in	->	joystick pos. 1
DL 2	swivelling left	->	joystick pos. 2
DR 4	swivelling right	->	joystick pos. 4

Joystick right

HU 3	boom up	->	joystick pos. 3
HU 1	boom down	->	joystick pos. 1
LÖ 4	bucket out	->	joystick pos. 4
LÖ 2	bucket in	->	joystick pos. 2

Fig.: Joystick positions le. / ri.

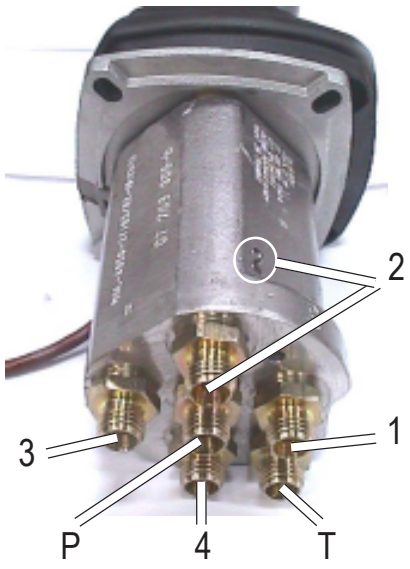
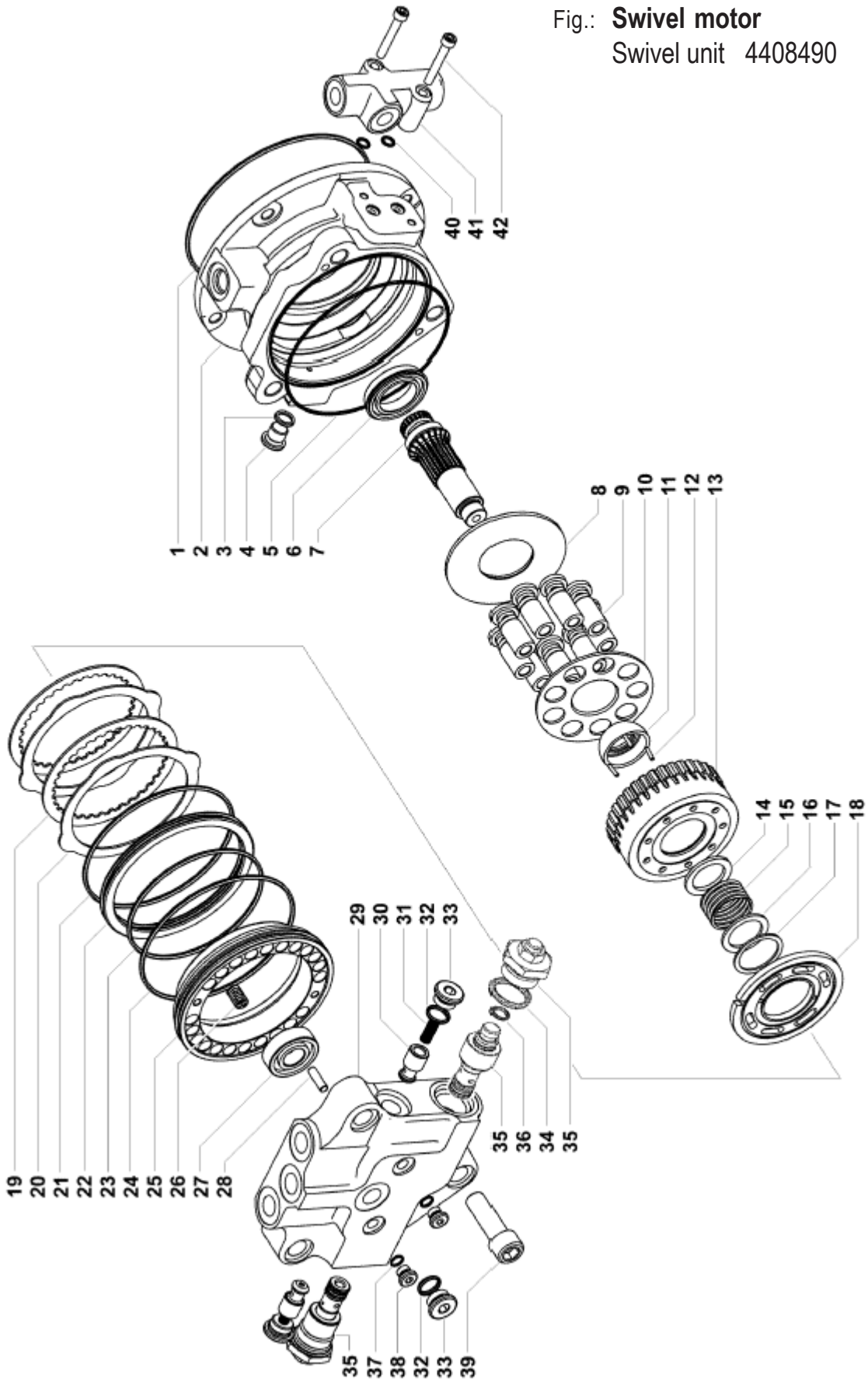


Fig.: **Swivel motor**
Swivel unit 4408490



CHAPTER **D**:

Diesel engine

(Neuson Service Manual 5002 - 6002)

Id.No.: **9707749**
Edition: Feb 03

K4 Switch relay initial contact
K5 Time relay glow plug indicator 15 sec.

M1 Starter
M2 Fan motor
M3 Wiper motor
M4 Windshield washer pump
M5 Additional filler pump for filling fuel tank (optional)

P1 Operating hours counter and fuel gauge
R1 Warm up glow plug
R2 Feeler for fuel gauge

S1 Switch for 2nd gear
S2 Switch for fan motor
S3 Switch wiper motor
S4 Light switch
S5 Switch for rear work lighting
S6 Switch for work lights
S7 Feeler for minimum fuel warning light
S10 Feeler for water temperature
S11 Feeler for oil pressure switch
S12 Feeler for clogged air filter
S13 Feeler for return filter
S14 Ignition
S15 Switch roof light
S16 Button for 2nd gear
S17 Horn button
S18 Change over valve button
S19 Switch safety solenoid valve

Y0 Stop solenoid
Y1 Change over valve
Y2 Solenoid valve 2nd gear
Y3 Safety solenoid valve

X1 Plug in engine area 21 pole
X2 Plug in engine area 6 pole
X3 Plug for work lights 2 pole
X4 Plug for solenoid valve 24 pole
X6 Plug for addtional filler pump 2 pole
X7 Cab plug 7 pole
X8 Plug for buzzer 2 pole
X9 Plug 1 pole

Legend - Elektric wiring Neuson 5002 AB / Legende Elektroschaltplan 5002 AB		
	Fabr.No.: AB00473 and higher	
S36	switch klilma	Schalter Klimaanlage
S37	switch klima van	Schalter Klimagebläse
S38	pressure switch klima	Druckschalter Klima
S39	pressure switch klima	Druckschalter Klima
R1	preheating	Vorglühanlage
X0	cigarette lighter	Zigarettenanzünder
X1	main connector engine cable tree	Hauptstecker Motorkabelbaum
X4	some engine relays	einige Motorrelais
X5	alternator load control	Lichtmaschine Ladekontrolle/Erregung
X6	alternator main plus	Lichtmaschine Hauptplus
X9	starter main plus	Starter Hauptplus
X10	starter solenoid	Starterritzel Spule
X11	heating / clima switches	Heizung / Klima Schalter
X12	connector instrumenenpanel left	Stecker Anzeigeelement links
X13	heating / clima ventilator	Heizung / Klima Ventilator
X14	connector right to left armrest	Verbindung Rechte und Linke Armlehne
X15	connector right to left armrest	Verbindung Rechte und Linke Armlehne
X16	connector right to left armrest	Verbindung Rechte und Linke Armlehne
X17	main connector armrest cable tree	Hauptstecker Armlehnenkabelbaum
X18	ground	Masse
X19	socket	Steckdose
X24	connector engine speed / pump reg.	Verbindung Motordrehzahlsteller
X26	connector to horn button	Stecker Hupentaster
X27	connector anti thieft device	Stecker Diebstahlsicherung
X28	cabin connector	Kabinenstecker
X29	connector instrumenten panel	Stecker Anzeigeinstrument
X30	motoroil control	Motorölkontrolle
X31	buzzer	Summer
Y2	boom swing / extended hydraulik valve	Armschwenk / Zusatzhydraulik Ventil
Y3	3 rd hydraulic circuit	3. Steuerkreis
Y4	3 rd hydraulic circuit	3. Steuerkreis
Y5	safety valve	Sicherheitsventil
Y6	fast speed valve	Schnellfahrventil
F1	switch lights, controll lamps	Schalterbeleuchtung, Kontrollanzeigen
F2	anti thift device, engine relais	Diebstahlsicherung, Motorrelais
F3	lights chassis, arm	Beleuchtung Chassis, Hubarm
F4	heating van, clima, horn	Heizung, Klima, Hupe
F5	armrest left, engine speed, pumpregulatic	Steuerhebelträger links, Motordrehzahl, Pumpenregelung
F6	windscreenwiper, cabin	Scheibenwischer, Kabine
F7	stop solenoid, alternator	Abstellmagnet, Erregung Lichtmaschine
F8	valves	Ventile
F9	option cabin	Dachscheinwerfer
F10	socket, refuelling pump	Steckdose, Betankungspumpe
F11	rotating light, cabin, anti thief device	Drehleuchte, Radio, Zigarettenanz., Diebstahlsich.
Q1	main fuse	Hauptsicherung
Q2	main fuse	Hauptsicherung
X40	main connector back lights	Hauptstecker Rücklichter
X41	lights front left	Lichter vorne links
X42	lights front right	Lichter vorne rechts
X43	lights on boom	Lichter auf Hubarm

Connection to RIGHT armrest /
Stecker zum rechten Steuerhebelträger 5002-12002 AB

X24		***6 pol. AMP***		
1		*X15, P1*		*dark blue*
2		*X15, P1*		*green / black*
3		*X15, P1*		*lightblue*
4		*GND*		*black*
5		*Supply +12 V*		*red*
6		*res*		
X27				
1		*starter*		*white / black*
2		*valves*		*brown / white*
3		*stop solenoid*		*blue*
4		*starter*		*white / black*
5		*valves*		*brown / white*
6		*stop solenoid*		*blue*
7				
8		*ground*		*black*
9				
10		*supply +30*		*red*
11		*supply +15*		*blue*
X28				
1		*windscreen wiper back*		*blue / red*
2		*rotating lamp*		*violett*
3		*ground*		*black*
4		*windscreen wiper*		*white*
5		*cabin roof light front*		*green*
6		*windscreen washer*		*white/black/white*
7		*supply +15*		*blue*
8		*supply +30*		*red black*
9		*cabin roof light back*		*yellow / black*

Connection between right and left armrest 5002-12002 AB
Stecker zwischen rechter und linkem Steuerhebelträger 5002 - 12002 AB

X14, male		***13 poles AMP:***		
1		*res. Lamp*		*brown*
2		*res. lamp*		*brown*
3		*display back light*		*green*
4		*earth*		*black*
5		*watertemperature*		*green / white*
6		*brake lamp (6502)*		*red / yellow*
7		*accumulator load lamp (6502)*		*green / white*
8		*res. lamp*		*brown*
9		*res. lamp*		*brown*
10		*nc.*		
11		*speeed pick up signal*		*blue / black*
12		*indicator lamp (6502)*		*blue / red*
13		*light lamp (6502)*		*yellow / black*