

WACKER

VIBRATION PLATE

BPU 4045 A

DPU 4045 Y

DPU 4045 YE

WACKER AUSTRALIA PTY. LTD.

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WACKER DPU 4045 Y

CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

CONTENTS

Type	Machine No.
BPU 4045 A	0007009
DPU 4045 Y	0007010
DPU 4045 YE	0007805

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HAZARD IDENTIFICATION, RISK ASSESSMENT AND CONTROL

COMPANY: **WACKER AUSTRALIA PTY. LTD.**


PLANT/EQUIPMENT: **REVERSIBLE VIBRATION PLATES**

PLANT/TASK DESCRIBED: **COMPACTION OF SOIL, ASPHALT, PAVERS**

OPERATING SAFETY

Familiarity and proper training are required for the safe operation of equipment!

Equipment operated improperly or by untrained personnel can be dangerous! Read operating instructions and Safety Guidelines to familiarise yourself with the location and proper use of all instruments and controls. **WEAR APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT AT ALL TIMES!**

HAZARD IDENTIFICATION	RISK ASSESSMENT	PRACTICABILITY (It is practicable to remove or mitigate the hazard or risk?)		RISK CONTROL
		YES	NO - Why not?	
INJURY DUE TO CONTACT WITH V-BELT DURING OPERATION	HIGH RISK, WHEN OPERATING WITHOUT V-BELT GUARD	✓		1. WARNING IN INSTRUCTION MANUAL 2. CLOSED V-BELT GUARD
BURNS ON EXHAUST PROTECTION GUARD	MEDIUM RISK		ONLY EXPENSIVE & IMPRACTICAL ENCLOSURES COULD MITIGATE THE RISK.	1. IMPRINT ON GUARD  2. WARNING IN INSTRUCTION BOOK
EXPLOSION OR FIRE	MEDIUM RISK		WHEN REFUELLING THE MACHINE, FLAMMABLE LIQUIDS ARE EXPOSED AND VAPOURS ARE PRESENT, WHICH CANNOT BE AVOIDED.	1. WARNING IN INSTRUCTION MANUAL
LIFTING THE MACHINE	MEDIUM RISK	✓		1. LIFTING INSTRUCTIONS IN INSTRUCTION MANUAL 2. DECAL "CRANE HOOK" AT CENTRE LIFTING POINT
PLANT TIPPING OVER, ROLLING OVER	LOW RISK		ENVIRONMENT IN WHICH MACHINE IS OPERATED CANNOT BE CONTROLLED BY THE SUPPLIER.	1. WARNING IN INSTRUCTION MANUAL
OPERATOR SLIPPING, TRIPPING, FALLING	LOW RISK		IT IS NECESSARY FOR PARTS OF THE MACHINE TO VIBRATE STRONGLY TO FULFIL THE TASK DESCRIPTION.	1. WARNING IN INSTRUCTION MANUAL 2. WEAR P.P.E.
CONTACT WITH VIBRATING PARTS.	LOW RISK		NO ENGINEERING SOLUTION POSSIBLE. VERY LOW RISK	1. SEE OPERATING INSTRUCTIONS.

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HAZARD IDENTIFICATION	RISK ASSESSMENT	PRACTICABILITY (It is practicable to remove or mitigate the hazard or risk?)		RISK CONTROL
		YES	NO - Why not?	
INJURY/DUE TO: INCORRECT GUIDANCE OF MACHINE	LOW RISK		NO RISK IF MACHINE IS GUIDED CORRECTLY	1. WARNING IN INSTRUCTION MANUAL
VIBRATION ON OPERATING HANDLE	LOW RISK	✓		1. SHOCK ABSORBED GUIDING HANDLE DESIGN 2. WARNING IN INSTRUCTION MANUAL
CENTRE POLE FALLING OUT OF VERTICAL TRANSPORT POSITION	LOW RISK	✓		1. SAFETY BAR ARRESTS CENTRE POLE IN VERTICAL POSITION BY CLIPPING IT TO THE PROTECTIVE FRAME
SUBROGATION/SURFER INJURY/DUE TO: EXHAUST FUMES & FUEL VAPOURS	MEDIUM RISK		EXHAUST FUMES AND PETROL VAPOURS ARE UNAVOIDABLE	1. WARNING IN INSTRUCTION MANUAL
DUST	MEDIUM RISK		ENVIRONMENTAL CIRCUMSTANCES IN WHICH MACHINE IS OPERATED ARE BEYOND THE CONTROL OF THE SUPPLIER	1. WARNING IN INSTRUCTION MANUAL
NOISE		1. WARNING IN INSTRUCTION MANUAL 2. DECAL: WEAR HEARING PROTECTION		

FOREWORD

For your own safety and protection from physical injury, carefully read, understand and observe the safety instructions.

Please operate and maintain your vibratory plate in accordance with the instructions in this instruction book. Your attention will be rewarded by trouble-free operation and high availability.

Defective machine parts are to be replaced as soon as possible. You will find the spare part you need and the relevant part number in the chapters "Spare parts" in this instruction book.

SAFETY INSTRUCTIONS FOR THE USE OF VIBRATORY PLATES WITH COMBUSTION ENGINES

General instructions

1. Vibratory plates may only be operated by persons who
 - * are at least 18 years of age
 - * are physically and mentally fit for this job
 - * have been instructed in guiding vibratory plates and proved their ability for the job to the employer
 - * may be expected to carry out the job they are charged with carefully.

The persons must be assigned the job of guiding vibratory plates by the employer

2. Vibratory plates may only be used for compaction jobs. Both the manufacturer's operating instructions and these safety instructions have to be observed.
3. The persons charged with the operation of vibratory plates have to be made familiar with the necessary safety measures relating to the machine. In case of extraordinary uses the employer shall give the necessary additional instructions.
4. It is possible that this vibratory plate exceeds the admissible sound level of 89 dB (A). According to the rules for the prevention of accidents regarding emission of noise, the employees have to wear ear protection if the sound level reaches 89 dB (A) or more.

Operation

1. When starting a gasoline engine with a starter crank make sure you have assumed a proper position with respect to the engine and that your hands are placed properly on the crank.
ATTENTION! Turn hand crank vigorously until engine starts, as otherwise the crank could rebound.
 2. The functioning of operating levers or elements is not to be influenced or rendered ineffective.
 3. During operation the operator may not leave the control elements.
 4. The operator has to stop the engine of the vibratory plate before going on breaks. The machine has to be placed such that it cannot turn over.
 5. Stop engine before filling fuel tank. When refilling fuel tank, do not allow fuel to come into contact with the hot parts of the engine or spill onto the ground.
 6. Do not smoke or handle open fire near this machine.
 7. The tank lid must fit tightly. Shut off fuel cock, if available when stopping the engine. For long distance transports of machine operated by fuel or fuel - mixtures, the fuel tank has to be drained completely.
ATTENTION! Leaking fuel tanks may cause explosions and must therefore be replaced immediately.
 8. Do not operate the machine in areas where explosions may occur.
 9. Make sure that sufficient fresh air is available when operating vibratory plates with combustion engines in enclosed areas, tunnels, pits and deep trenches.
 10. During operation keep your hands, feet and clothes away from the moving parts of the vibration plate. Wear safety shoes, head protection and eye protection glasses in case of trench operation where falling sand stones may be ejected.
 11. When working near the edges of breaks, pits, slopes, trenches and platforms, vibratory plates are to be operated such that there is no danger of their turning over or dropping in.
 12. When travelling backwards the operator has to guide the vibration plate laterally by its guide handle so that he will not be squeezed between the handle and a possible obstacle. Special care is required when working on uneven ground or when compacting coarse material. Make sure of a firm stand when operating the machine under such conditions.
 13. Vibratory plates are to be guided such that hand injuries caused by solid objects are avoided.
-

14. Vibratory plates have to be guided such that their stability is guaranteed.
15. Machines with integrated transport trolley may not be parked or stored on the trolley. This device has only been designed to transport the machine.

1. Safety checks

1. Vibratory plates may only be operated with all safety devices installed.
2. Before starting operation, the operator has to check that all control and safety devices function properly.
3. In case of defects of the safety devices or other defects reducing the operational safety of the vibration plate, the supervisor has to be informed immediately.
4. In case of defects jeopardising the operational safety of the vibration plate, the machine has to be stopped immediately.

Maintenance

1. Only use original spare parts. Modifications to this machine, including the adjustment of the maximum engine speed set by the manufacturer, are subject to the express approval of WACKER. In case of non-observance all liabilities shall be refused.
2. All drive units have to be switched off before carrying out maintenance jobs. Deviations from this are only allowed if the maintenance or jobs require a running engine.
3. When working on vibratory plates equipped with electric starter, disconnect battery before carrying out maintenance or repair jobs on the electric parts of the machine.
4. Remove pressure from hydraulic lines before working on them. Caution: take care when removing hydraulic lines, for the oil may be very hot (up. to 80° C). Precautions are to be taken to prevent oil from splashing into the operator's eyes.
5. As soon as maintenance and repair jobs have been completed all safety devices have to be reinstalled properly.

Transport

1. During transport, loading and unloading of vibration plates by means of lifting devices, appropriate slinging means or hooks have to be used on the lifting points provided for this purpose on the vibratory plate.
2. The load-carrying capacity of the loading ramps has to be sufficient and the ramps have to be secured such that they cannot turn over. Make sure that no one will be endangered by machines turning over by slipping or by moving machine parts.
3. When being transported on vehicles, precautions have to be taken that vibration plates do not slip or turn over.

Maintenance checks

According to the conditions and frequency of use, vibratory plates have to be checked for safe operation at least once a year by skilled technicians, such as those found at WACKER-service depots and have to be repaired if necessary.

Please also observe the corresponding rules and regulations valid in your country.

TECHNICAL DATA

	BPU 4045 A	DPU 4045 Y	DPU 4045 YE
Machine No.	007009	0007010	0007805
Forward and reverse speed m/min:	up to 23		
Surface compaction performance m ² /h:	up to 828		
Operating weight (mass)			
Without extension plates kg	266		274
With extension plates kg	289		297
With extension plates accessory kg	308		316
Power transmission	From the drive engine directly to the exciter unit via automatic centrifugal clutch and V-belts		
Exciter			
Vibrations min ⁻¹ (Hz):	4140 (69)		
Multigrade oil	SAE 15W 40		
Drive engine	Air-cooled 4-cycle, single cylinder Honda petrol engine	Air-cooled, 4-stroke single cylinder Yanmar diesel engine	Air-cooled, 4-stroke single cylinder Yanmar diesel engine – with electro start
Piston displacement cm ³ :	270		296
Engine speed RPM ⁻¹ :	3600		3600
Nominal output kW(Hp):	6.7(9.0)		4.5(6.0)
Oil	SAE 15W 40		SAE 15W 40
Fuel	Petrol		Diesel
Fuel consumption l/h:	2.07		1.2
Tank capacity l:	6.0		3.5
Electrical system			
Battery			Battery 12V – 37Ah
Alternator	N/A		Rotary current generator with electronic regulator and rectifier
Charging rate max. A:			4A overnight
Charging voltage V:			14.5
Starter			Starter motor
D.C V:			12
Hydraulic control			
Hydraulic oil	Shell Tellus oil C32		

The required sound specifications, called- for by the EC-Machine Regulations per Appendix 1, Paragraph 1.7.4.f, are

- sound pressure level at the operator's location $L_{pA} = 92$ dB(A)
- sound power level $L_{WA} = 103$ dB(A)

The sound values were determined according to ISO 3744 for the sound power level (L_{WA}) and, alternatively, ISO 6081 for the sound pressure level (L_{pA}) at the operator's location.

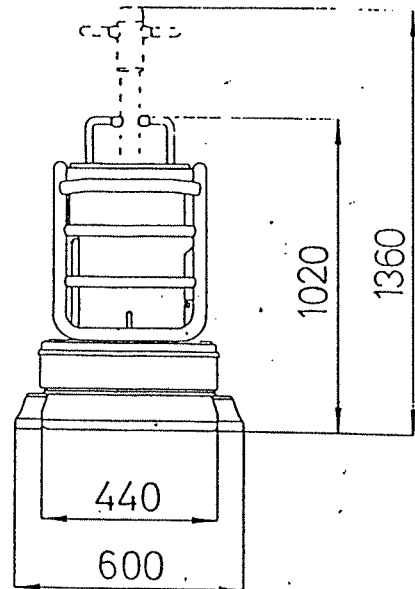
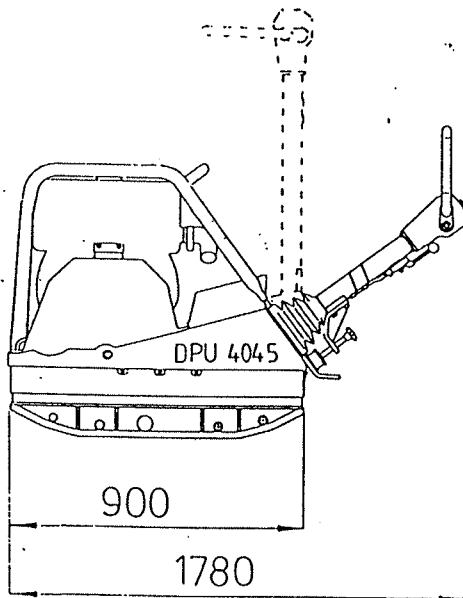
The weighted effective acceleration value, determined according to ISO 8662, Part 1, is 11 m/s².

The sound and vibration measurements were carried out and obtained with the machine working on crushed gravel at nominal engine speed.

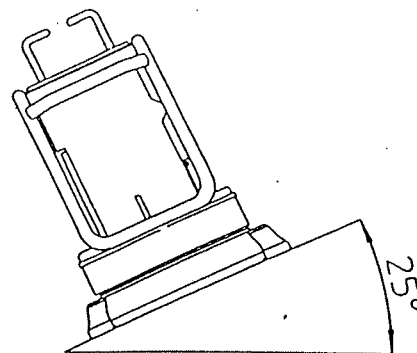
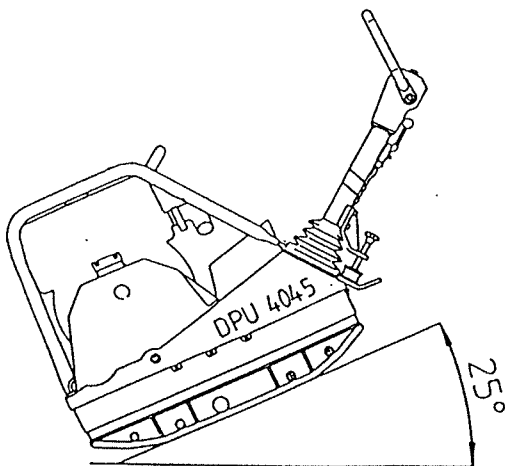
Field of application

The vibration plate DPU 4045 is suitable for compacting all kind of ground both in trench and surface compaction operations.

Dimensions

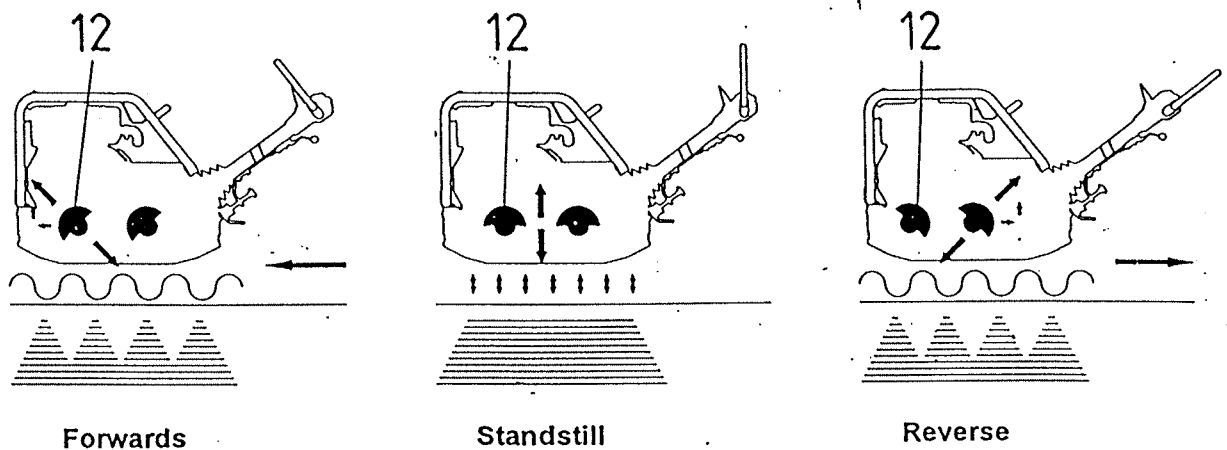


Max. admissible inclination



Description of function

The vibration required for compaction is produced by the exciter (10) which is firmly joined to the lower mass (3). This exciter (10) is designed as a central vibrator with aligned vibrations. Such a principle permits the direction of vibration to be changed by turning the eccentric weights (12). In this way an infinitely variable transition between vibration in forward motion (Fig. 1), at standstill (Fig 2.) and in reverse motion (Fig 3) is possible. This process is hydraulically controlled with the operating control handle (4) on the center pole head (5).



Forwards

Standstill

Reverse

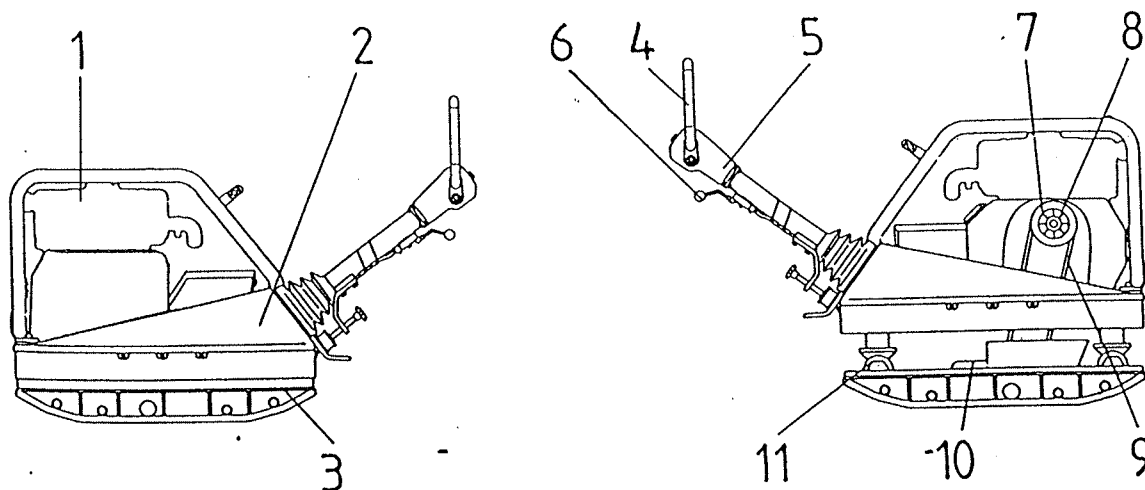
The drive engine (1) anchored to the upper mass (2) drives the exciter. (the torque is transmitted by means of a friction connection through the centrifugal clutch (8) and the exciter V-belt (9))

The centrifugal clutch (8) interrupts flow of power to the exciter (10) at low engine speed and thus permits perfect idling of the drive engine (1).

The speed of the drive engine (1) can be infinitely varied by remote control on the throttle control lever (6). The upper (2) and lower (3) masses are connected to each other by 4 vibration-damping rubber metal shock mounts (11). This damping system prevents the very high frequencies from being transmitted to the upper mass (2). As a result, the functionality of the drive engine (1) is retained in spite of the high compaction performance.

The drive engine (1) depends on the model types that specified in technical data section, works on diesel or petrol. The engine (1) draws in combustion air through the air filter and is air cooled. One of the diesel models DPU 4045 YE is started electrically, the other models are started manually by rewind.

To facilitate the starting procedure (at very low temperature, with hand start) the drive engine (1) has an automatic decompression mechanism.



TRANSPORT TO WORK SITE, RECOMMENDATIONS ON COMPACTION

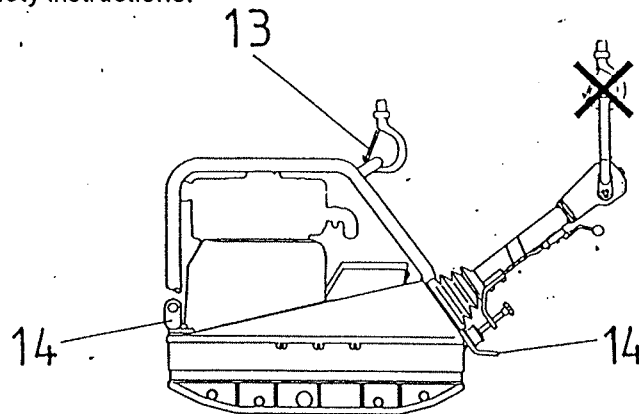
Transport to work site

Conditions:

- To transport the vibration plate, only use suitable lifting equipment with a minimum load-bearing capacity of 500kg.
- Always switch off engine before transporting the machine!
- Only attach suitable tackle at the central lifting point (13) provided. The central lifting point is located exactly above the centre of gravity of the machine.
- During transport on the loading area of a vehicle, tie down the vibration plate using the lugs (14)

ATTENTION! Do not suspend from the shift lever!

Note: Also read the regulations in safety instructions.



Recommendations on compaction

Ground conditions

The max. compaction depth depends on several factors relating to the ground condition, such as moisture, grain distribution etc. It is therefore not possible to specify exact.

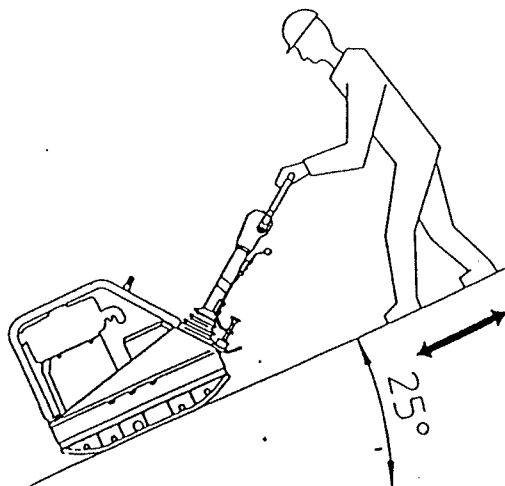
Recommendation: In each case determine the max. compaction depth with compaction tests and soil samples.

Compaction on slopes

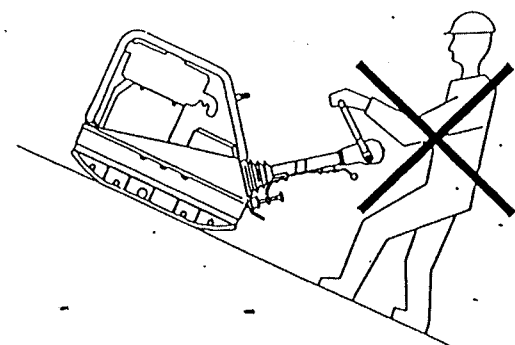
The following points are to be observed when compacting on sloped surfaces (slopes, embankments):

- * Only approach gradients from the bottom (a gradient which can be easily overcome upwards, can also be compacted downwards without any risk)
- * The operator must never stand in the direction of descent (see chapter "Safety instruction").
- * The max. gradient must not be exceeded.

ATTENTION! If this gradient were exceeded, this would result in a failure of the engine lubrication system and thus inevitably lead to a breakdown of important engine components.



Right!



Wrong!

Starting

Conditions:

- Oil:** Check oil level with dipstick, if necessary top up with HD brand oil SAE 15 W 40.
- Fuel:** When pouring diesel or petrol into fuel nozzle, maintain absolute cleanliness. Impurity in the fuel can cause breakdowns in the injection system and premature clogging of the fuel filter.
- Air filter:** Check cleanliness and conditions of air filter elements. If necessary, clean or replace elements.

Once these points have been observed, you can start the engine as follows:

Electric start:

1. Open fuel valve.
 2. Turn the throttle control lever (6) (refer to *Diagram* on pg. 11) clockwise into full load position.
 3. Turn ignition switch key to operating position; then hold until engine is running.
- ATTENTION!** Wait until the engine stops before repeating the starting procedure.
4. Turn throttle control lever into idling position, allow engine to warm up for 2-3 minutes at idling speed.
- Note:** Do not activate automatic decompression lever while the engine is running.
5. Electric start version is equipped with warning buzzer, which signals when the ignition is left on.

Manual start:

1. Open fuel valve
2. Set trottle lever full open.
3. Pull recoil starter slowly and when you fell strong resistance, then let it return slowly.
4. Push down decompression lever.
5. Pull recoil starter knob swiftly with both hands to start the engine, if engine does not start, repeat from step 2.

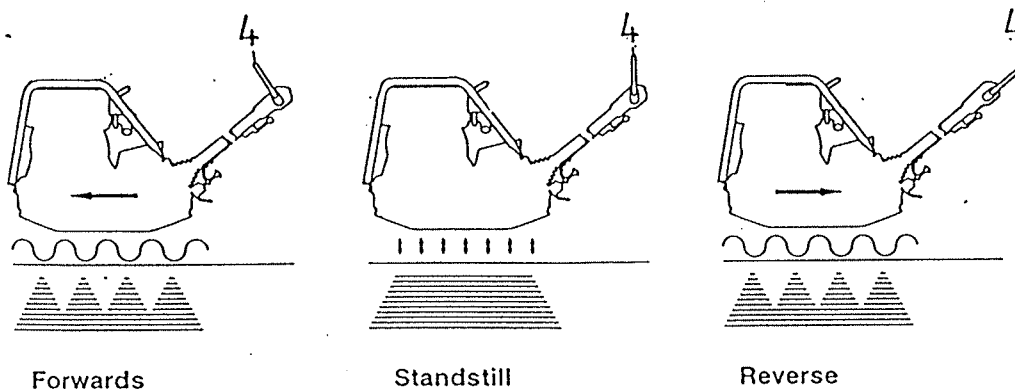
Forward and reverse motion

The engine speed can be infinitely varied on the throttle control lever (6).

The direction of travel is determined with the shift lever (4).

Depending on the position of the shift lever (4), the vibration plate compacts in forward direction, at standstill or in reverse direction.

The forward and reverse speed can be varied by selecting intermediate positions of the shift lever (4), or the machine can be employed for particularly intensive compaction at standstill.



Switching off

1. Move the throttle control lever (6) to the stop.
2. When the engine is at a standstill, turn the ignition key off and control light goes off.

ATTENTION! Warning buzzer will signal, if the ignition key is left on.

Compaction without extension plates

If the vibration plate is used without extension plates, screw set of protective screws (8 pcs) No. 0067519 into the threaded boreholes situated in the lower mass, in order to avoid threads from being damaged.

Engine oil

Check oil level

Check oil level on oil dipstick. If the oil level is too low, top up with HD brand oil SAE 15 W 40.

Changing the oil:

1. Let engine warm up.
2. Undo drain screw and drain off oil.
3. Insert oil screw.
4. Pour in oil through the filler nozzle.

Battery

Check acid level:

1. Remove battery cover.
2. Check acid level, if necessary top up with distilled water.
3. Secure battery cover.

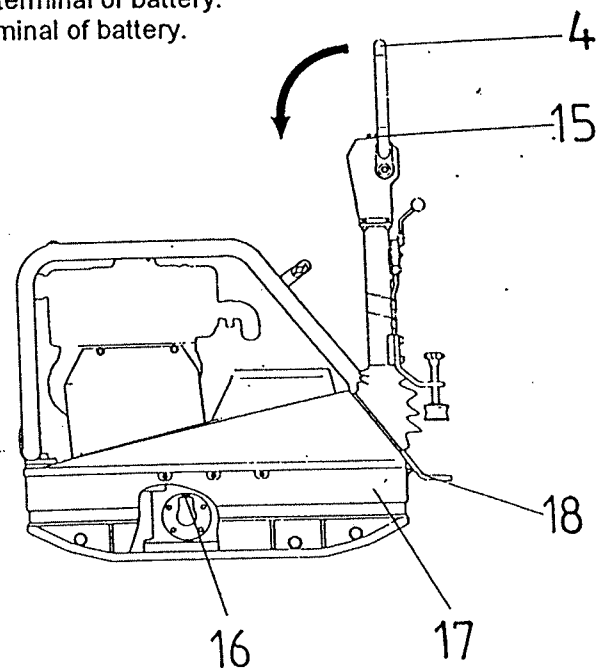
ATTENTION! Before mounting the battery cover, make sure that the positive terminal cover is there!
Do not block the degassing bore.

4. When changing the battery:
Removal: First disconnect negative, then positive terminal of battery.
Assemble: First connect positive, then negative terminal of battery.

Hydraulic control

Check oil level:

1. Move centre pole into vertical position.
2. Open filler bore (15).
3. Oil level must be at mark, if necessary top up with hydraulic oil.
4. Close filler bore (15).



Venting hydraulic control:

1. Remove apron (17) by undoing the screws (18).
2. Move centre pole into vertical position, move shift level (4) right into the reverse position, open filler bore (15).
3. Loosen connecting screw (16).
4. Slowly push the shift lever (4) into forward motion direction until hydraulic oil emerges bubble-free at the connection screw.
5. Tighten connecting screw (16), mount apron (17).
6. If necessary, top with hydraulic oil, seal filler bore (15).

Forward speed too low

- Cause: - Too little hydraulic oil in the centre pole head.
 - Air in hydraulic control.
 Remedy: - Top up hydraulic oil.
 - Bleed system.

Reverse speed low

- Cause: - Too much hydraulic oil in the centre pole head.
 Remedy: - correct oil level in accordance with mark.

No reverse motion

- Cause: - Mechanical fault.
 Remedy: - Contact WACKER service dept.

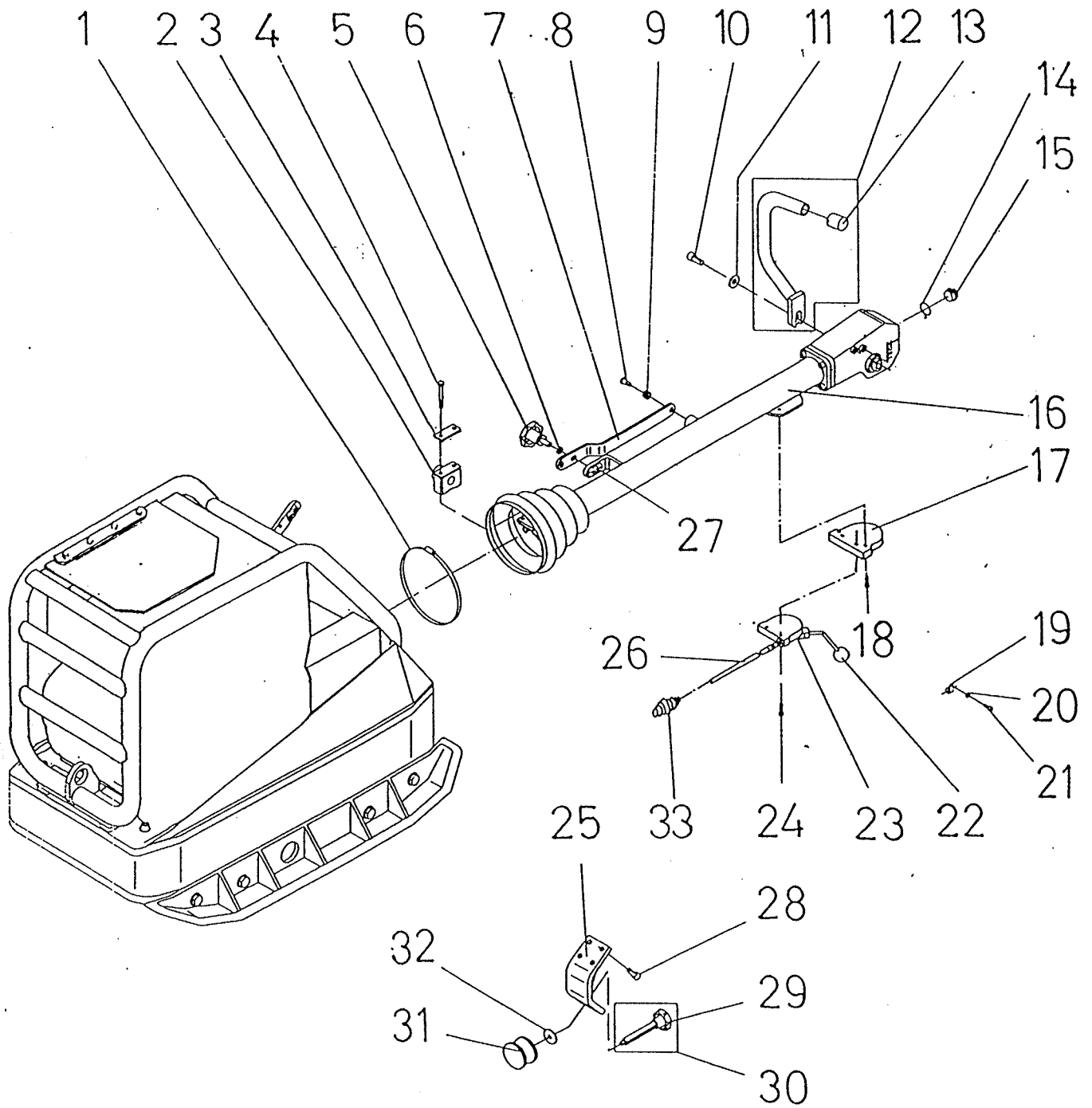
Loss of hydraulic oil

- Cause: - Leaks, hydraulic hose defective.
 Remedy: - Change defective parts.
 Note: Bleed system after every dismantling operation.

Engine does not start

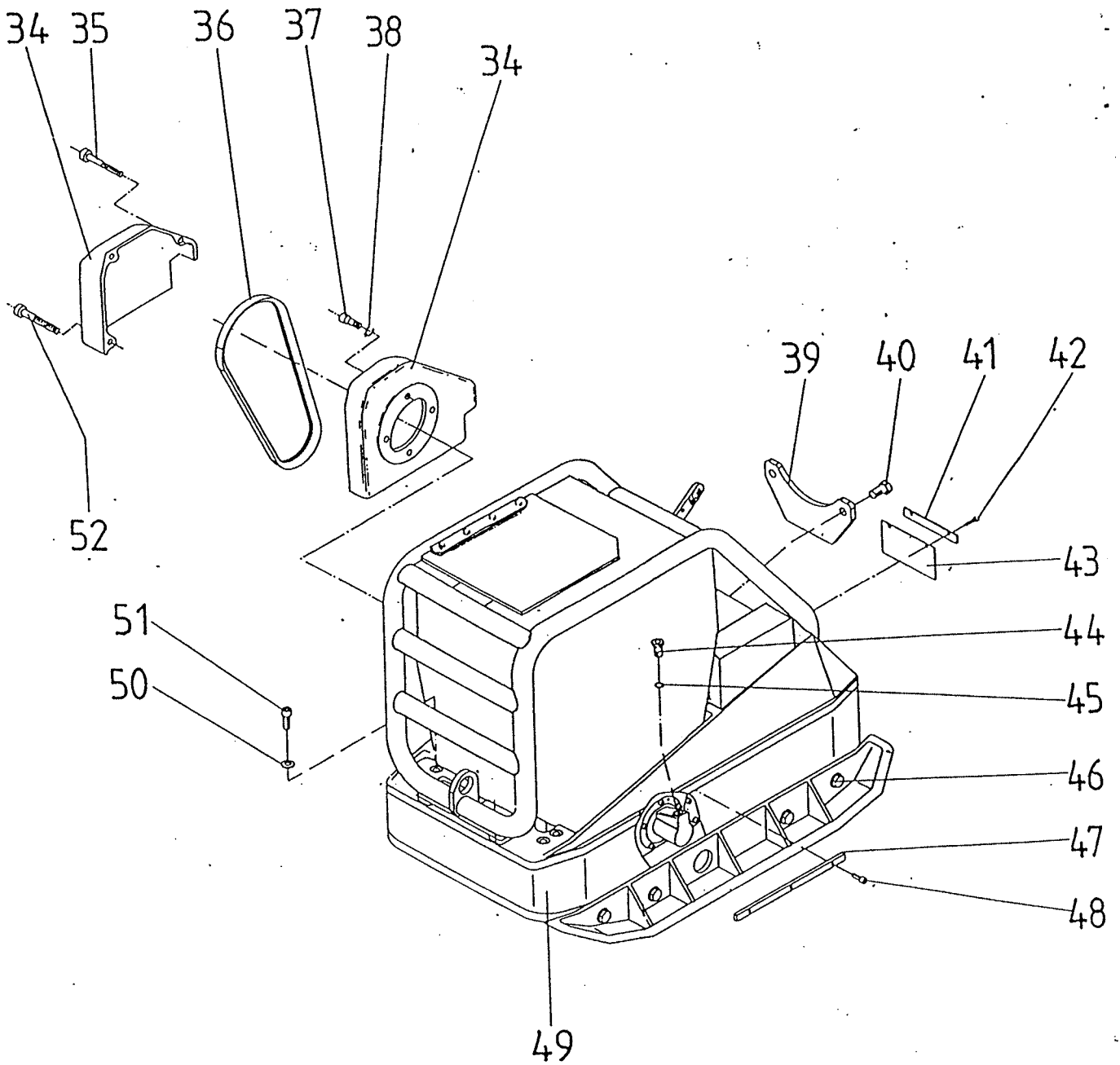
- Cause: - Ignition lock defective.
 - Starter defective.
 - Battery flat
 Remedy: - Change defective parts.
 - Change battery.

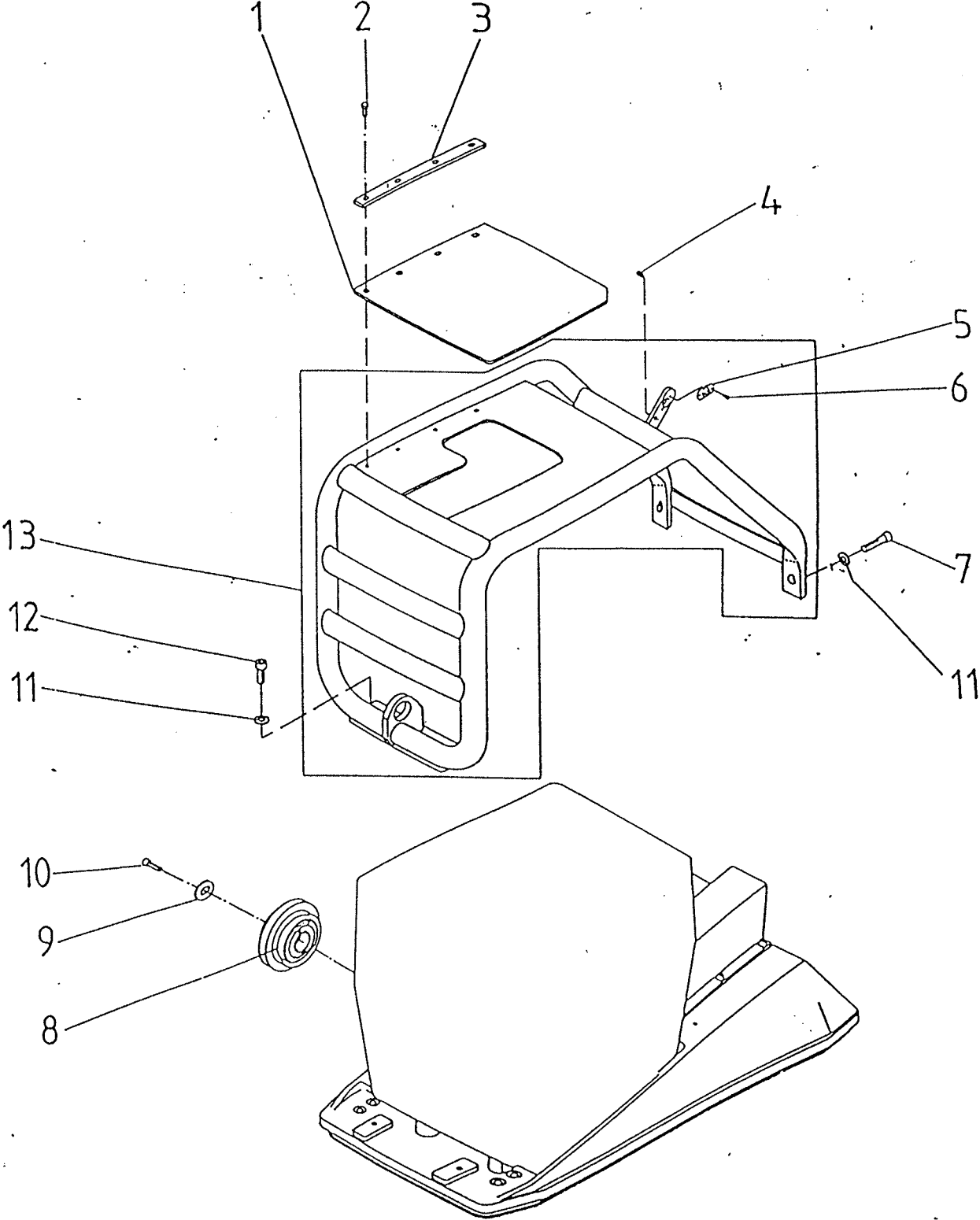
Vibration plate Cpl.



Ref.	Part No.	Qty.	Part
1	0045109	1	Worm drive hose clip
2	0102031	2	Fixing device
3	0102030	2	Bracket
4	0011345	4	Bolt DIN 931 M8x60
5	0065055	1	Star grip
6	0098536	1	O-ring
7	0065063	1	Swivel arm
8	0065058	1	Countersunk screw DIN923 – M12x25
9	2004942	1	Cable passage
10	0011530	2	Socket head cap screw DIN912 – M12x25
11	0031565	2	Spring washer DIN 6796 – 12
12	0069822	2	Shift lever bracket cpl.
13	0069186	2	Protective cap
14	0032006	1	Copper gasket DIN7603-A26x31
15	0024838	1	Screw plug DIN7604-AM26x1,5
16	0046945	1	Centre pole cpl.
17	0105115	1	Distance plate (for lever P/N 2004043)
18	0020944	2	Bolt M6x16 (for distance plate P/N 0105115)
19	2003845	4	Pipe clamp
20	0010624	4	Washer DIN 125 – B6,4
21	0011553	4	Socket head cap screw DIN912 - M6x16
22	0103942	1	Plastic knob
23	2004043	1	Throttle lever (mounted with distance plate)
	0105950	1	Throttle lever (from Mach.No. 6060222)
24	0020950	2	Screw M8x12 (for lever P/N 2004043)
	0012373	2	Screw M6x22 (for lever P/N 0105950)
25	0048529	1	Angle
26	0056800	1	Throttle cable (for lever P/N 2004043)
	0056804	1	Throttle cable (for lever P/N 0105950)
27	0065056	1	Catch stop
28	0011536	4	Socket head cap screw DIN912 - M10x20
29	0039143	1	Star grip
30	0043928	1	Threaded spindle cpl.
31	0043233	1	Shock mount
32	0012976	1	Washer DIN440 - R11
33	0056398	1	Throttle spring

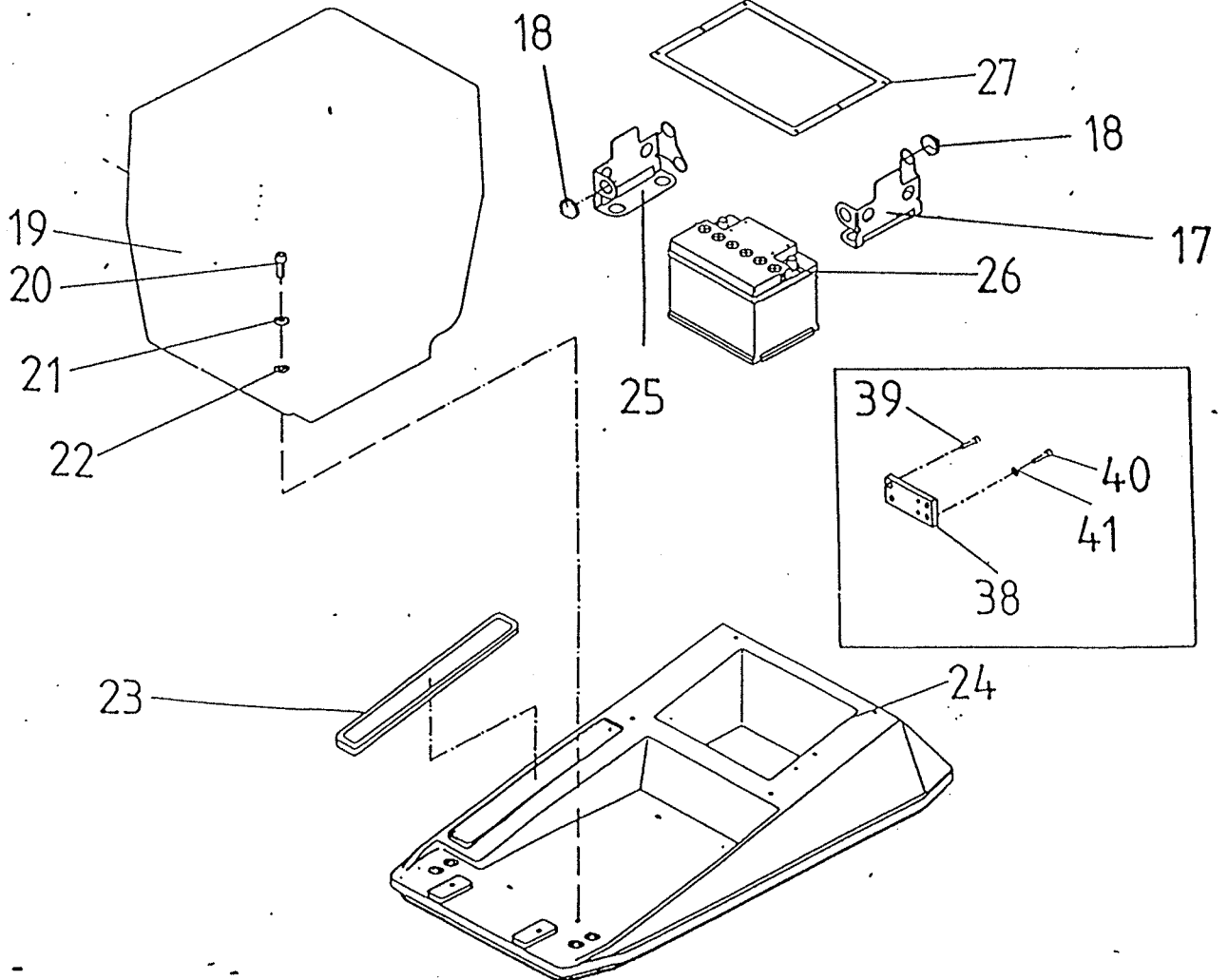
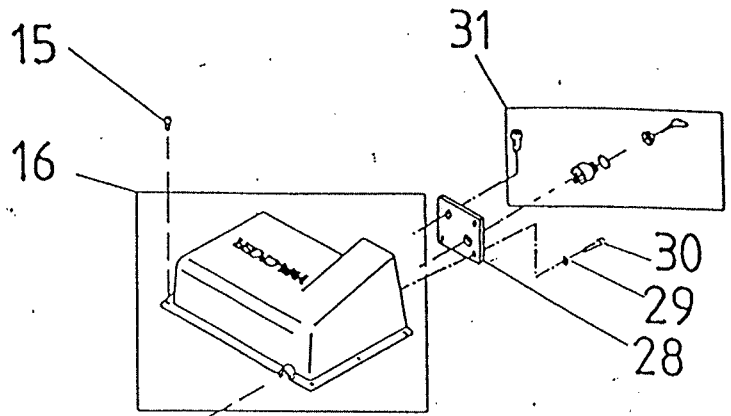
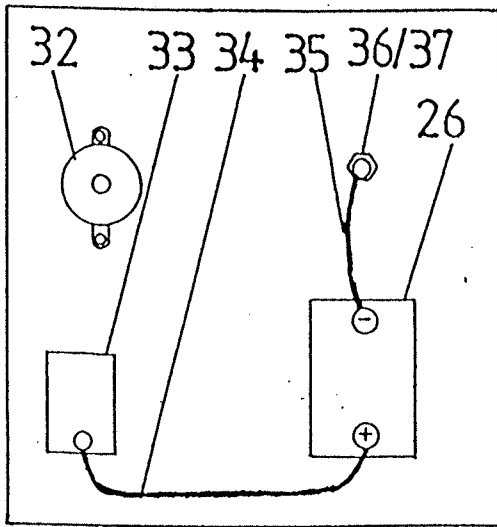
Vibration plate Cpl.



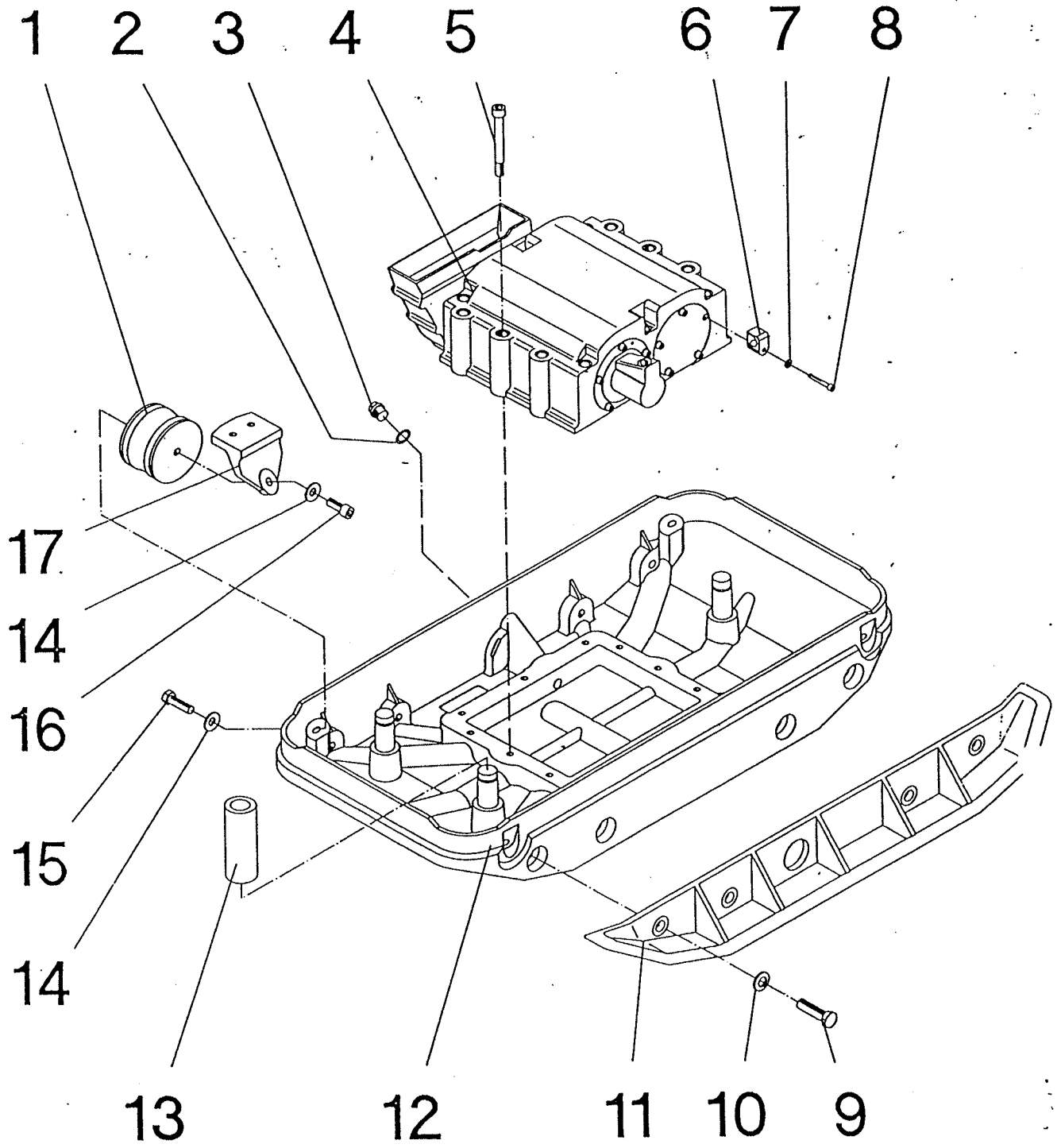


Ref.	Part No.	Qty.	Part
1	0056751	1	Rubber cover
2	0011545	4	Cap screw DIN912 M8x18
3	0056750	1	Clamp
4	0108438	1	Slotted headless screw
5	0065056	1	Clip
6	0011573	2	Cap screw DIN912 M4x8
7	0011528	2	Cap screw DIN912 M12x35
8	0058671	1	Coupling & Clutch cpl.
9	0012976	1	Washer DIN440 - R11
10	0011457	1	Bolt DIN933 M8x25
11	0031565	4	Con spring washer DIN9796 12-FST
12	0011528	2	Cap screw DIN912 M12x35
13	0056723	1	Protective frame (Yanmar)
	0056801	1	Protective frame (Honda)
	0056766	1	Donaldson Air Filter mounting kit (not shown)
	0056770	1	Donaldson Air Filter (not shown)

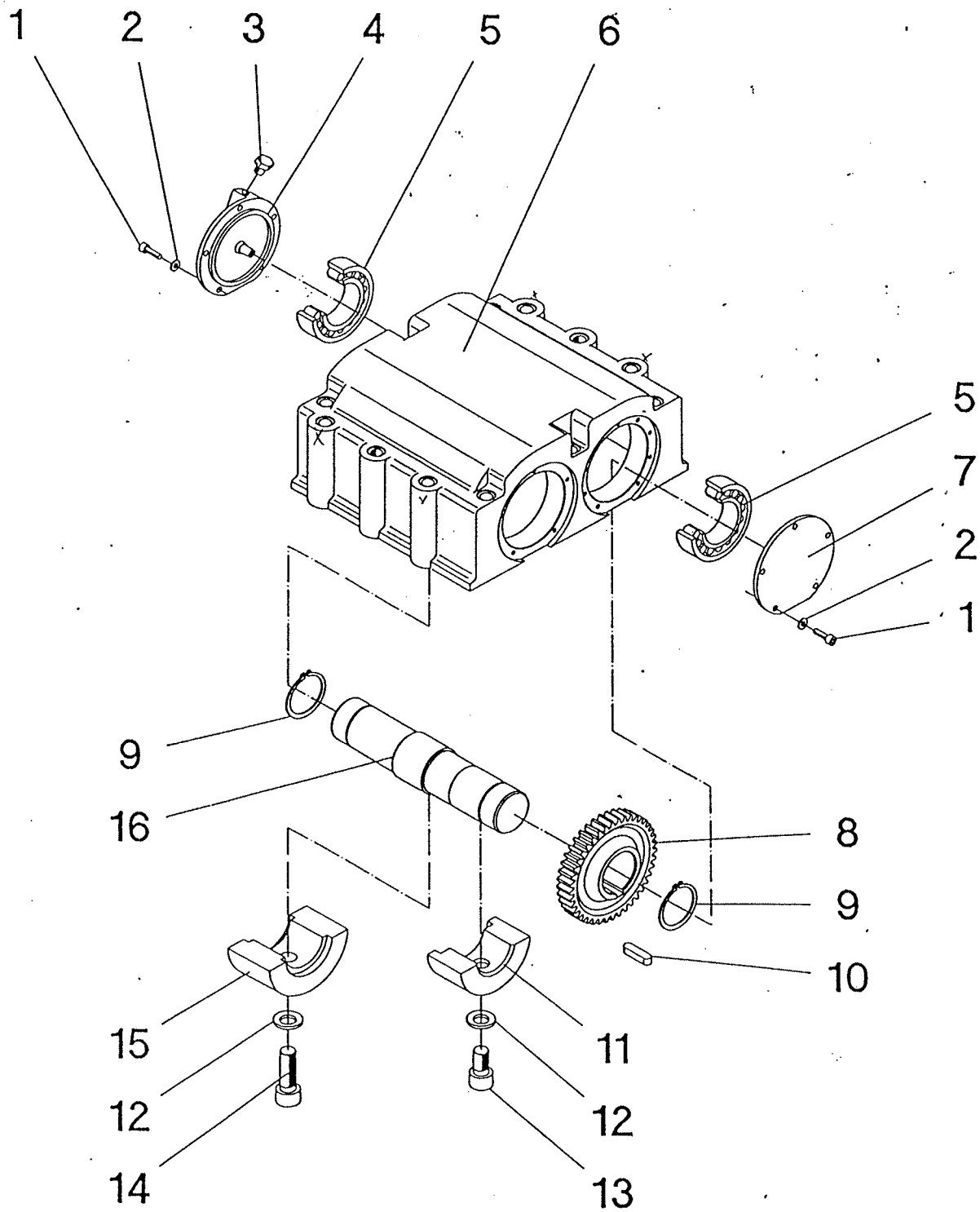
ELECTRIC WIRING DIAGRAM



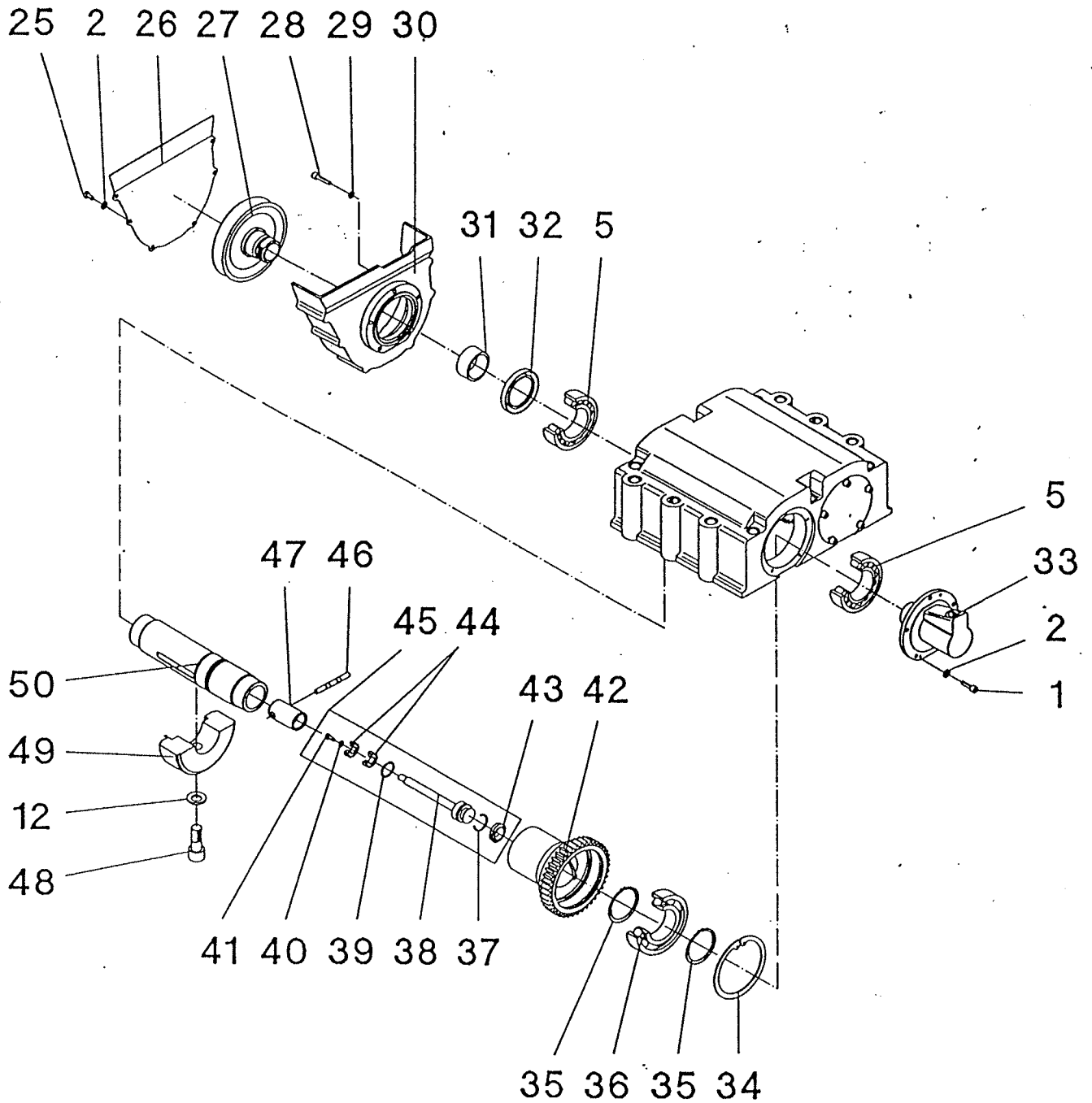
Ref.	Part No.	Qty.	Part
15	0011543	6	Cap screw DIN912 M8x20
16	0046798	1	Battery cover
17	0124970	1	Battery protector left (YE version only)
18	0124255	14	Shockmount (YE version only)
19	0056797	1	Yanmar diesel engine L70AE-DW (with electric start and ignition key)
	0056642	1	Yanmar diesel engine L70AE-DW
	0099724	1	Honda petrol engine GX270-SX
	0056766	1	Donaldson Air Filter mounting kit (Y/YE version only, not shown)
	0056770	1	Donaldson Air Filter (Y/YE version only, not shown)
20	0011436	4	Hexagonal head screw DIN933 M10x45
21	0033988	4	Con spring washer
22	0010375	4	Washer DIN9021 B10,5
23	0044577	530mm	Sealing
24	056803	1	Upper mass
25	0124969	1	Battery protector right (YE version only)
26	0058302	1	Battery (YE version only)
27	0048541	1	Sealing (YE version only)
28	0056735	1	Key panel (YE version only)
	0056746	1	Key panel blank
29	0010624	3	Washer DIN125 B6,4
30	0011554	3	Cap screw DIN912 M6x12
31		1	Key switch assy.
32	0056799	1	Warning buzzer
33		1	Starter
34	0103864	1	Positive pol strap (YE version only)
35	0048761	1	Mass line
36	0011543	1	Cap screw DIN912 M8x20
37	0012397	1	Spring washer DIN127 B8
38	0056724	1	Plate (YE version only)
39	0011554	2	Cap screw DIN912 M6x12 (YE version only)
40	0011470	2	Hexagonal head screw DIN933 M6x20 (YE version only)
41	0010624	2	Washer DIN 125 B6,4 (YE version only)



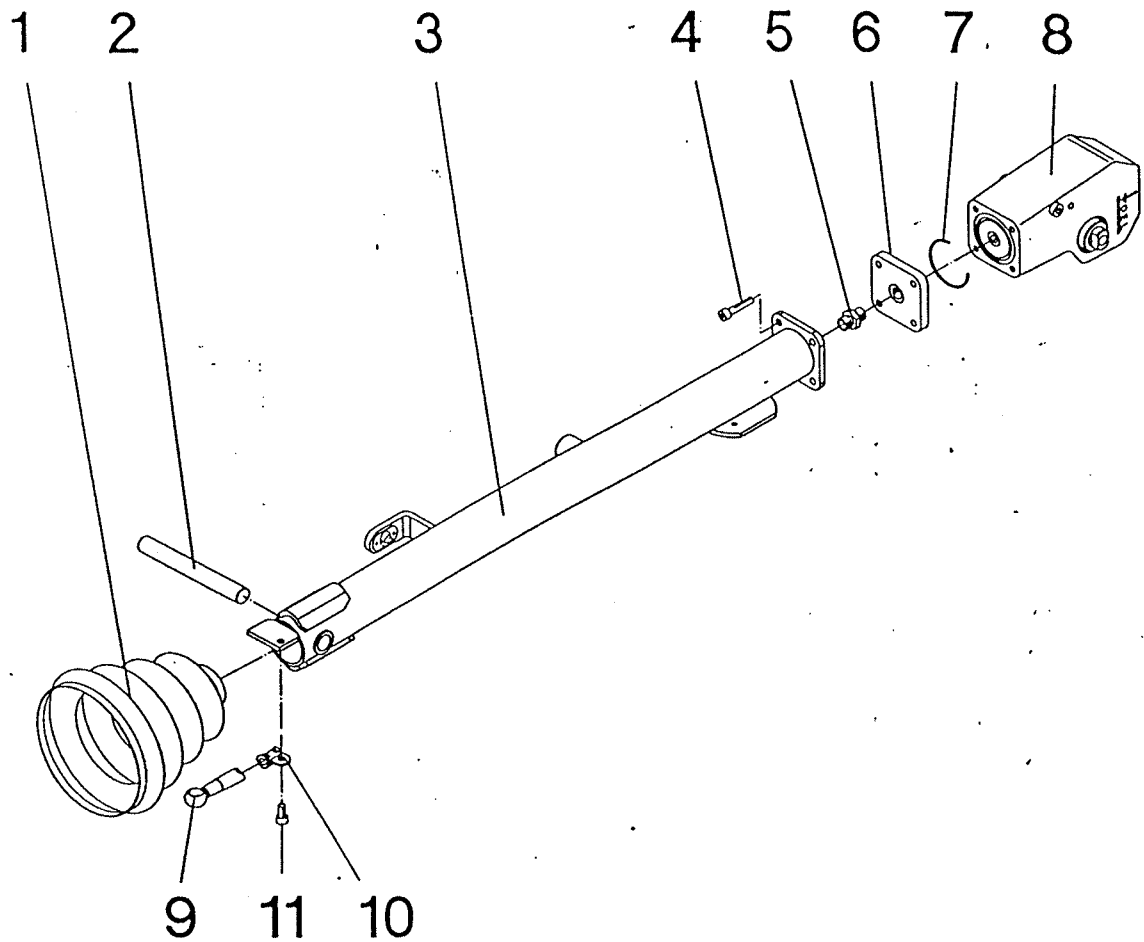
Ref.	Part No.	Qty.	Part
	0105443	1	Lower mass cpl.
1	2004814	4	Shock mount
2	0019156	1	Gasket DIN7603 - A18x24
3	0068222	1	Screw plug DIN910 - M18x1,5
4	0102461	1	Exciter cpl.
5	0094518	12	Socket head screw DIN912 - M12x120
6	0069727	1	Clamp
7	0010624	1	Washer DIN125 - B6,4
8	0011547	1	Socket head screw DIN912 - M6x40
9	0039191	8	Hexagon head cap screw DIN961 - M16x1,5x55
10	0021988	8	Lock washer HS 16
11	0044442	2	Extension plate
12	0102356	1	Base plate
13	0034442	3	Daming bush
14	0031565	8	Conical spring washer DIN6796 - 12
15	0011421	4	Hexagon head cap screw DIN933 - M12x40
16	011529	4	Socket head cap screw DIN912 - M12x30
17	0102105	4	Shock-mount support



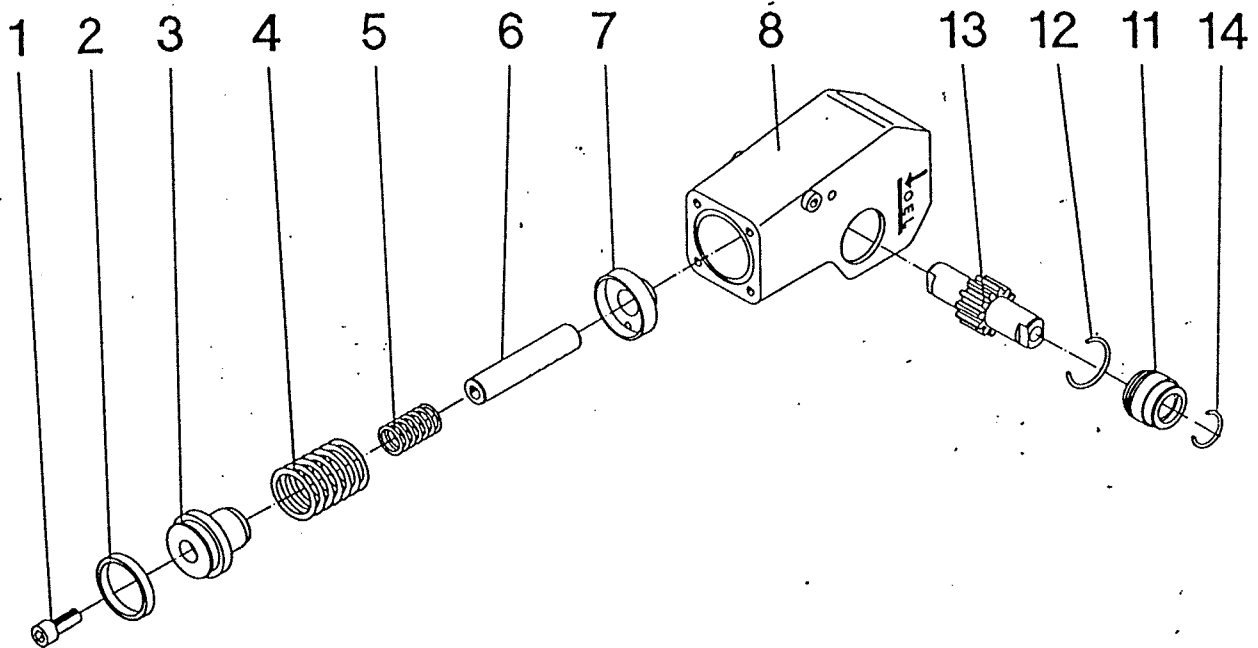
Ref.	Part No.	Qty.	Part
1	0011551	15	Socket head cap screw DIN912 - M6x20
2	0010624	21	Washer DIN125 - B6,4
3	1103030	1	Vent screw
4	0102144	1	Vent cover
5	0103469	4	Cylindrical roller bearing
6	0099059	1	Exciter housing
7	0039110	1	Cover
8	0039116	1	Gear wheel
9	2006113	2	Retaining ring DIN471 - 50x2
10	2001399	1	Fitting key DIN 6885 - A10x8x28
11	0069175	2	Eccentric weight
12	0021988	5	Lock washer HS 16
13	0044634	2	Socket head cap screw DIN912 - M16x30
14	0043812	1	Socket head cap screw DIN912 - M16x50
15	0099648	1	Eccentric weight
16	0046359	1	Shaft



Ref.	Part No.	Qty.	Part
25	0012357	6	Hexagon head cap screw DIN933 - M6x12
26	0104128	1	Plate (WAM version)
27	0058264	1	V - belt pulley (WAM version)
28	0011550	5	Socket head cap screw DIN912 - M6x25
29	0010744	5	Washer DIN433 -6,4
30	0104127	1	Protective box (WAM version)
31	0039105	1	Inner receway
32	0048854	1	Rotary shaft seal
33	0048604	1	Cylinder cover
34	2001725	1	Retaining ring DIN472 -100x3
35	2004822	2	Retaining ring DIN471 - 55x2
36	0046366	1	Deep groove ball bearing
37	2006991	1	O-ring
38	0105206	1	Bolt
39	0037136	1	Retaining ring DIN472 - 24x1,2
40	0010624	1	Washer DIN125 - B6,4
41	0012356	1	Hexagon head cap screw DIN933 - M6x10
42	0046363	1	Adjusting sleeve
43	0043203	1	Lip seal ring
44	0105193	2	Deep groove ball bearing
45	0105195	1	Bolt cpl.
46	0043382	1	Tripping pin
47	0048546	1	Indexing bolt
48	001824	2	Socket head cap screw DIN912 - M16x40
49	0099646	2	Eccentric weight
50	0048606	1	Shaft

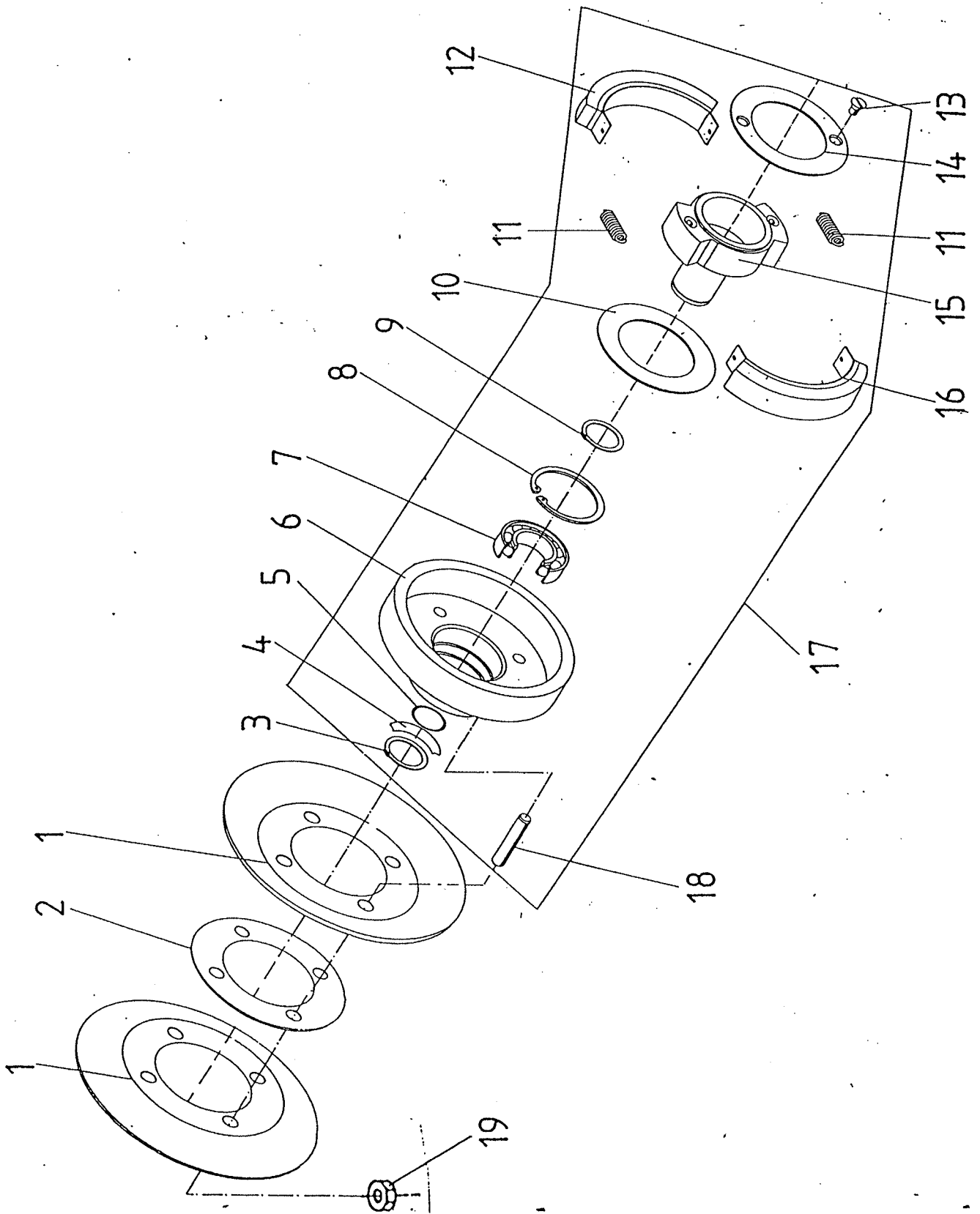


Ref.	Part No.	Qty.	Part
	0046945	1	Centre pole cpl.
1	0039126	1	Bellows
2	0099165	1	Bolt
3	0102188	1	Centre pole
4	0011539	4	Socket head cap screw DIN912 - M8x40
5	0069225	1	Screwed socket
6	0102189	1	Intermediate flange
7	0039235	1	O-ring
8	0095249	1	Centre pole head cpl.
9	0102187	1	Hose pipe
10	2006921	1	Pipe clamp
11	0011544	1	Socket head cap screw DIN912 - M8x16



Ref.	Part No.	Qty.	Part
1	0011529	1	Socket head cap screw DIN912 - M12x30
2	0043215	1	Lip seal ring
3	0043213	1	Control piston
4	0103407	1	Compression spring
5	0063972	1	Compression spring
6	0043212	1	Guide bolt
7	0043208	1	Guide
8	0043214	1	Contre pole head
11	0069725	2	spacer
12	0068752	2	O-ring
13	0069726	1	Long face pinion
14	0018194	2	O-ring

Coupling & Clutch Cpl.



Ref.	Part No.	Qty.	Part
1	0058667	2	Pulley half
2	0058668	3	Spacer
3	2003022	1	Circlip
4	2004336	1	Gasket
5	0059743	1	Washer
6	0059742	1	Clutch drum
7	0047510	1	Deep groove ball bearing
8	2001042	1	Circlip
9	2004474	1	Circlip
10	0059740	1	Retaining disc
11	0059739	2	Spring
12	0059738	2	Centrifugal weight
13	0011706	2	Cheese head screw DIN84 - M6x10
14	0059741	1	Cover washer
15	0059744	1	Hub
16	0022861	2	Lining
17	0058671	1	Centrifugal clutch cpl.
18	0046538	4	Threaded pin
19	0010882	4	Nut DIN934 M8-8
