OPERATOR'S
SPARE PARTS &
SERVICE MANUAL

Pneumatic Pokers
Models V125
V635
V645
V655
V665
V675

FAIRPORT

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1. SAFETY

Wear eye protection.
Wear ear protection.
Wear gloves
Wear safety footwear
Never hold the vibrator head.
Always turn off the air at the supply point before installing, removing or performing any repair or maintenance.
Check before using the poker that the hoses and fittings are not damaged, frayed or have deteriorated.
Comply with site safety regulations.

2. TECHNICAL DATA

Poker Model	VI25	V635	V645	V655	V665	V675
Assembly no.	92457	92666	92667	92668	92669	92670
Head dia., mm	28	35	45	55	65	75
Head length, mm	253	280	320	341	352	391
Total length, mm	2653	2640	2670	2700	2700	2740
Total weight, kg	3.8	6.0	8.0	9.0	10.0	15.0
Frequency, vpm	17000	18000	17000	17000	18000	18000
Centrifugal force, N	840	1924	3500	6050	9301	14851
Air cons. l/min	410	608	736	820	1018	1218
Sound power, dB (A)	101	107	113	109	113	112
At operator pos'n, dB (A)	88	94	100	96	100	99
Hand-arm vibration, m/sec^2	1.3	3.0	2.7	4.5	4.4	2.2

Hand-arm vibration measured 1 metre from poker head

3. OPERATING INSTRUCTIONS

Read section on safety.
Vibrators are delivered without lubrication. Before starting add oil to lubricator, see below.
For safety, optimum performance and maximum durability of parts, operate with an air supply of 90 psig (6.2 bar/620 kPa). Maximum air pressure must not exceed 94 psig (6.5 bar/650 kPa).

Ensure all hoses are clean internally before connecting supply to the vibrator.
It may be necessary to tap the vibrator's nose on a hard surface to start it vibrating.
Move the poker frequently. A little and often over an area is better than holding it in one place for a long time.
Make sure the whole area is covered.
Withdraw the poker slowly to ensure the hole is closed with adequately vibrated concrete.
When using a poker in timber formwork make sure the poker does not damage the formwork. Consider using a poker with a rubber nose cap. See parts list.
Do not try to vibrate concrete in layers greater than 400mm.
Do not stop the vibration of the poker whilst still in concrete. It may prove difficult to remove and it will leave a void.
To disconnect hoses always shut off air supply to the vibrator and then open twist grip to relieve air pressure.

4. SERVICING AND LUBRICATION

Top up lubricator before use.
Every four hours of use top up lubricator.
After use clean the vibrator thoroughly and hang head upward with control grip open to drain off any water and dirt.

Lubricants

Use automotive engine oil as follows:

Oil SAE No.	Ambient Temperature
5	Below -12°C (10°F)
10	-12°C - 27°C (10°F - 80°F)
20	Above 27°C (80°F)

Capacity of lubricator reservoir is 120cc.

5. VI25: DISMANTLING THE POKER HOSE ASSEMBLY

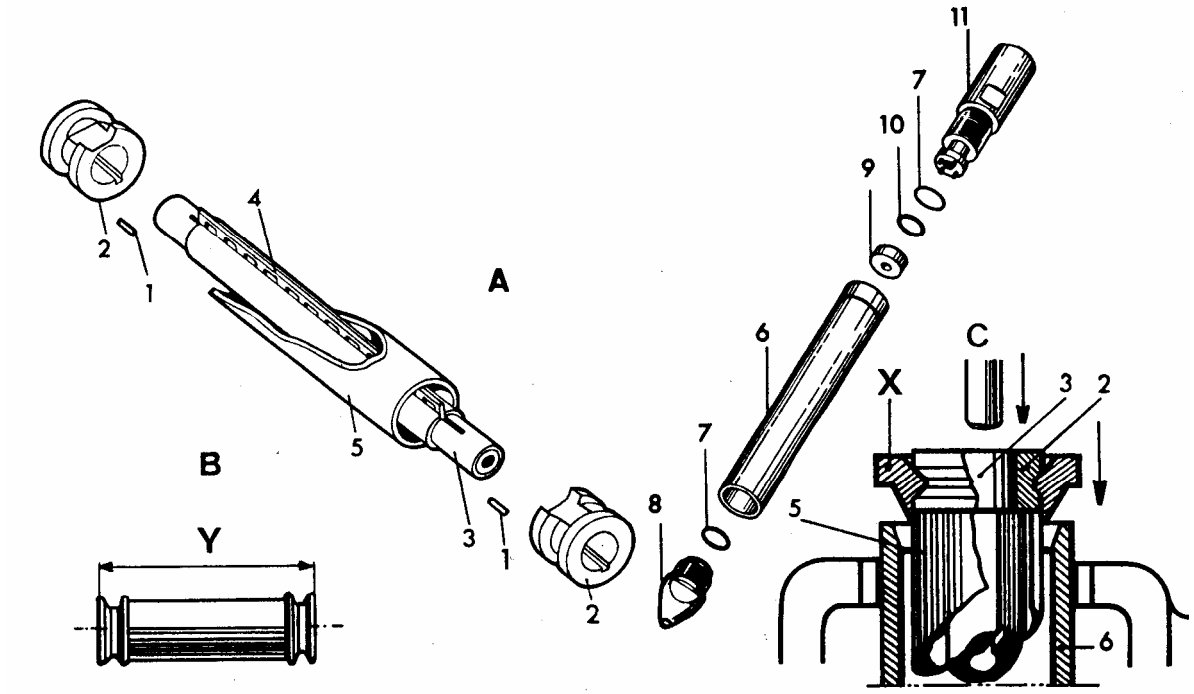
Cut exhaust hose clip (21).
Pull off exhaust hose (16) from exhaust body (17).
Unscrew exhaust body (17) from lubricating handle (39) to expose hose clip (20).
Cut exposed hose clip to release inlet hose (13) from lubricating handle (39).
Unscrew rear body (14) from body (11) and remove rear body complete with exhaust hose (16).
Cut exhaust hose (16) at back of rear body (14) and push out sleeve (15).
Unscrew air exhaust body (11), **left hand thread,** from housing (6).
Unscrew nipple and pull out inlet hose (13). If inlet hose is not being replaced it may remain attached to the body (11).

Reassembly

Slide inlet hose (13) into recess in body.
Using an allen key screw home nipple (12) until the inlet hose is locked in position.
Fit exhaust hose into rear body (14). Insert sleeve (15) into rear body (14) to lock hose into position.
Mount body (11) with air inlet hose (13) into rear body (14) and exhaust hose (16). Screw into position.
Refit head assembly to body (11). (See 'Reassembly of Rotor Assembly')
Refit inlet hose into lubricating handle (39) with hose clip (20).
The length of the inlet hose should be such that it protrudes approximately 64mm from exhaust hose.
Refit exhaust hose (16) onto exhaust body (17) using hose clip (21).

6. VI25: DISMANTLING THE ROTOR ASSEMBLY

Unscrew nosepiece (8) and housing (6) from air exhaust body (11). Extract rotor assembly through rear end of housing (6).
Fit the extractor (Part no. VT-1905, identified as X on diagram) on the groove of the front end plate (2). Clamp the housing (6) vertically in a vice and slide rotor assembly complete with extractor back into the housing (see diagram C). Using a soft drift, drive out end of shaft (3) to free all parts of the rotor assembly.
When fitting a new vane (4) care must be taken to ensure a snug fit in the groove of the shaft. If necessary, rub vane down with fine emery cloth.



Reassembly

The turbine should be assembled exactly as shown in drawing A. The position of the end plates and the vane are of extreme importance. The grooved slots in the vane should be on the left-hand side when the front end plate (2) with the circular grooved end of the shaft is facing you, according to drawing A.
Check the overall length of the turbine assembly. Dimension Y (see drawing B) should be 150mm +/- 0.05mm.
In order to keep rear closure plate in position whilst sliding rotor assembly into housing (6) hold vibrator vertically. Fit rear closure plate on locating pins of air exhaust body assembly (11). Position rotor assembly and slide housing (6) grooved end first over rotor assembly and screw into air exhaust body assembly (11).

Wear Criteria

The length of vane (4) should be 129.6mm and the length of the rotor should be 130mm. Maximum allowable wear on the overall length of the rotor is 0.2mm.

7. V635 – V675: DISMANTLING REAR BODY AND HOSES

Cut hose clip (16) and pull off exhaust hose (15) from exhaust body (17).
Unscrew exhaust body (17) from handle (30,39).
Pull out handle to expose hose clip (10).
Cut hose clip (10) to release inlet hose (11) from handle.
Hold housing (4) in a vice and unscrew rear body (12), **left hand thread**, removing complete exhaust hose (15).
If the hose is to be replaced then unscrew hose sleeve (13), pull out hose (15) from rear body (12) and remove hose protection spring (14) where fitted (not fitted to 35/45mm).
Using inlet hose (11) pull out rear closure plate (7), locking ring (8) and inlet hose connector (9).
All parts should be cleaned and the rear closure plate examined for wear, see note under sub heading ‘Wear Criterion’.

Reassembly

Rear closure plate, inlet hose fitting and inlet hose should be inserted into housing as an assembly, ensuring that the plate is kept square to the housing and pushed onto the housing shoulder.
Slide a new locking ring (8) over the inlet hose and locate behind rear closure plate.
If being replaced, fit exhaust hose into rear body (12), insert hose protection spring (14) (not to 35/45mm) and secure hose with hose sleeve (13).
The assembly can then be screwed into the housing. Ensure that a new ‘O’ ring or fibre washer is fitted.
Adjust hose lengths so that the inlet hose protrudes 65mm from the exhaust hose.
Slide new clips (10) and (16) onto respective hoses.

Pass inlet hose (11) through the exhaust body (17) and fit into hose connector (18) using hose clips (10).

Screw exhaust hose (15) onto exhaust body (17) and fit hose clip (16).

Wear Criteria

The optimum condition of the vibrator turbine assembly to produce maximum speed and therefore power is determined by the total air gap between closure plates and rotor. Ideally this should be between 0.06mm and 0.13mm. A gap greater than 0.20mm significantly impairs performance.

8. V635 – V675: REPLACING VANE, FRONT CLOSURE PLATE OR ROTOR

Hold housing (4) in a vice and unscrew nosepiece (1), **right hand thread**.
Remove from vice and by angling downwards the closure plate and rotor are free to drop onto the hand ensuring the rotor is not damaged.
The parts should be cleaned and examined.
If the front closure plate or rotor shows any signs of excessive wear (see subsection 'Wear Criterion' above), they should be replaced.
Vanes must be a snug sliding fit in the rotor and fitted so that the vane cutouts face away from the milled slots in the rotor.

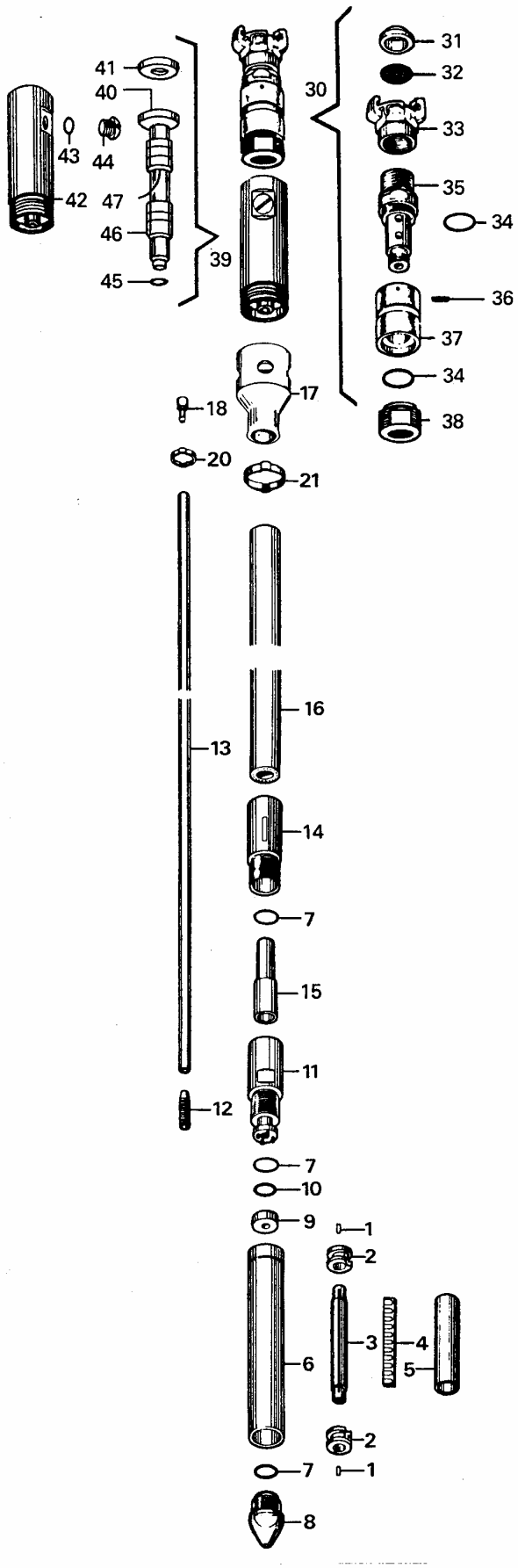
Reassembly

Assembly is the reverse of the above but the following should be observed:

Lightly oil running faces of the rotor and closure plate.
Insert rotor so that the exhaust holes are to the rear.
Fit a new O ring (2) to the nose piece (1).

9. VI25 – PARTS LIST

Item	Part No	Description	Qty
1	VT-1861	Shaft key	2
2	VT-1774	End plate	2
3	VT-1775	Shaft	1
4	VT-1783	Vane	1
5	VT-1776	Rotor	1
6	VT-1769	Housing	1
7	VT-2524	O ring	3
8	VT-1902	Nosepiece (steel)	1
8a	VT-16100	Nosepiece (rubber)	1
9	VT-1773	Rear closure plate	1
10	VT-2525	O ring	1
11	VT-1903	Air exhaust body	1
12	VT-1779	Nipple	1
13	VT-1785	Sleeve	1
14	VT-1777	Rear body	1
15	VT-1778	Sleeve	1
16	VT-1784	Exhaust hose	1
17	VT-16040	Exhaust body	1
18	VT-16039	Inlet hose connector	1
20	VT-16085	Hose clip	1
21	VT-2526	Hose clip	1
30	VT-16120	Steel handle comp.	1
31	VT-81	Rubber gland	1
32	VT-156	Gauze filter	1
33	VT-2512	Q. R. coupling	1
34	VT-2273	O ring	2
35	VT-2261	Handle shaft	1
36	VT-2262	Guide pin	1
37	VT-2260	Twist grip	1
38	VT-16042	Adapter	1
39	VT-10270/S	Lubricator complete	1
40	VT-10289/S	Lubricator tube	1
41	VT-10273	Rubber ring	1
42	VT-10271/S	Lubricator body	1
43	VT-2524L	O ring	1
44	VT-2265	Oil filler screw	1
45	VT-2525	O ring	1
46	VT-2521	Felt	7
47	VT-2521	Bleed wire	1

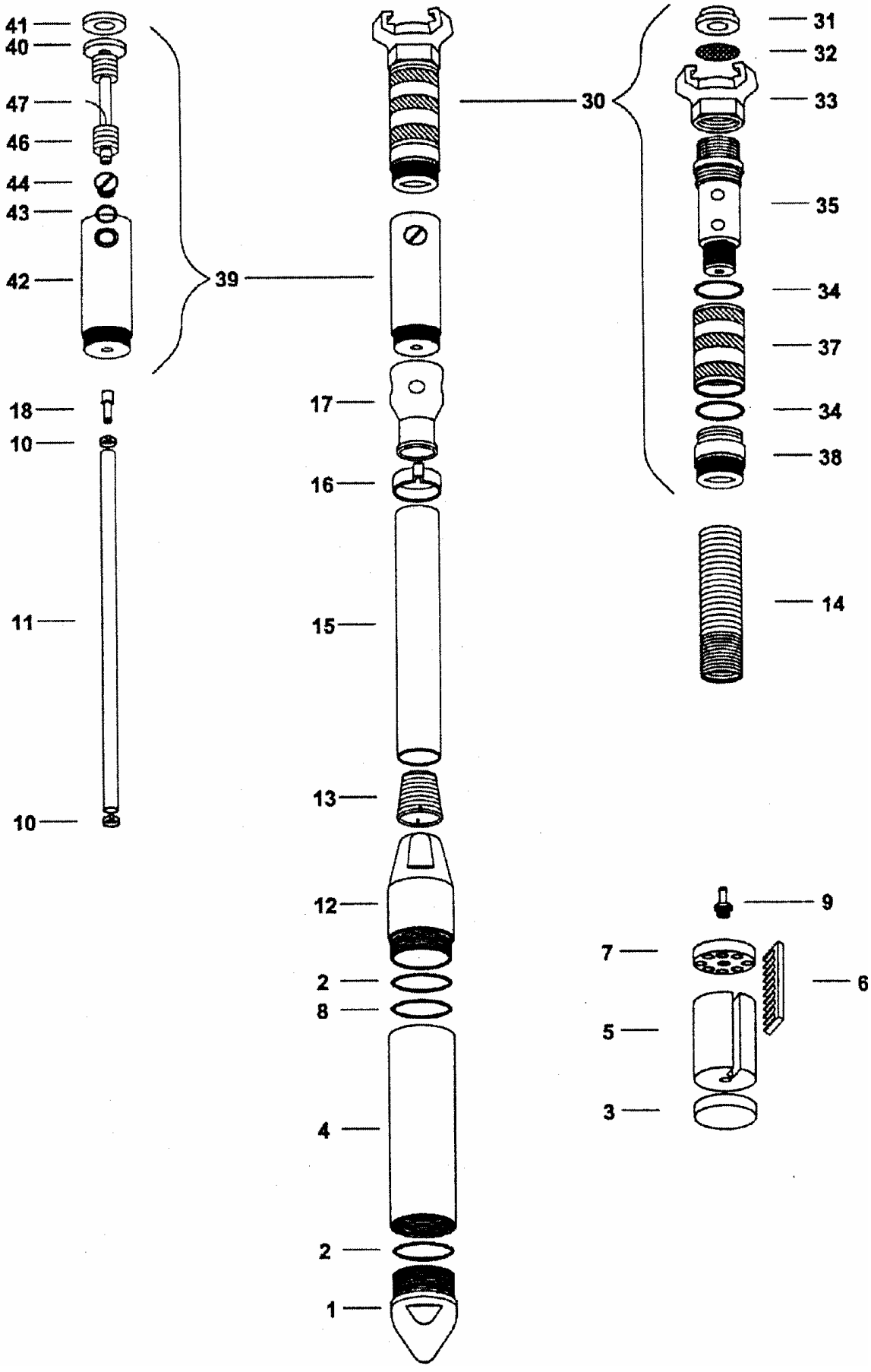


10. V635 – V675 PARTS LIST

Item	Part Number					Description	Qty
	V635	V645	V655	V665	V675		
1	VT-2631	VT-5551	VT-1463	VT-16265	VT-3551	Nosepiece	1
1a	VT-5994	VT-5550	VT-1577	VT-19145	VT-3611	Rubber nosepiece	1
2	VT-779	VT-1808	VT-2126	VT-16288	VT-2330	O ring	2
3	VT-16200	VT-16210	VT-16220	VT-16260	VT-16230	Front closure plate	1
4	VT-16201	VT-16211	VT-16221	VT-16261	VT-16231	Housing	1
5	VT-16202	VT-16212	VT-16222	VT-16262	VT-16232	Rotor	1
6	VT-16203	VT-16213	VT-16223	VT-16263	VT-16233	Vane	1
7	VT-16204	VT-16214	VT-16224	VT-16264	VT-16234	Rear closure plate	1
8	VT-16134	VT-7704	VT-7663	VT-16267	VT-7688	Locking ring	1
9	-	VT-5521	VT-16225	VT-16225	VT-16235	Inlet hose connector	1
10	VT-137	VT-137	VT-5456	VT-5456	VT-5211	Inlet hose clip	2
11	VT-788	VT-788	VT-1583	VT-1583	VT-540	Inlet hose	*
12	VT-2622	VT-7701	VT-1576	VT-16266	VT-3553	Rear Body	1
13	VT-2623	VT-1730	VT-1582	VT-1582	VT-1604	Hose sleeve	1
14	-	-	VT-1478	VT-1478	VT-1479	Hose protection sleeve	1
15	VT-2021	VT-7983	VT-1584	VT-1584	VT-541	Exhaust hose	*
16	VT-3679	VT-2392	VT-75	VT-75	VT-76	Exhaust hose clip	1
17	VT-10225	VT-10225	VT-10223	VT-10223	VT-10222	Exhaust body	1
18	VT-10588	VT-10588	VT-10221	VT-10221	VT-10219	Inlet hose connector	1
30	VT-16120	VT-16120	VT-16120	VT-16120	VT-16120	Steel handle complete	1
31	VT-81	VT-81	VT-81	VT-81	VT-81	Rubber gland	1
32	VT-156	VT-156	VT-156	VT-156	VT-156	Gauze filter	1
33	VT-2512	VT-2512	VT-2512	VT-2512	VT-2512	Q/R coupling	1
34	VT-2273	VT-2273	VT-2273	VT-2273	VT-2273	O ring	2
35	VT-2261	VT-2261	VT-2261	VT-2261	VT-2261	Handle shaft	1
37	VT-2260	VT-2260	VT-2260	VT-2260	VT-2260	Twist grip	1
38	VT-16042	VT-16042	VT-16042	VT-16042	VT-16042	Adapter	1
39	VT-10270	VT-10270	VT-10270	VT-10270	VT-10270	Lubricator	1
40	VT-10289	VT-10289	VT-10289	VT-10289	VT-10289	Lubricator tube	1
41	VT-10273	VT-10273	VT-10273	VT-10273	VT-10273	Rubber ring	1
42	VT-10271	VT-10271	VT-10271	VT-10271	VT-10271	Lubricator body	1
43	VT-2524	VT-2524	VT-2524	VT-2524	VT-2524	O ring	1
44	VT-2265	VT-2265	VT-2265	VT-2265	VT-2265	Oil filler screw	1
45	VT-2525	VT-2525	VT-2525	VT-2525	VT-2525	O ring	1
46	VT-2520	VT-2520	VT-2520	VT-2520	VT-2520	Felt	9
47	VT-2521	VT-2521	VT-2521	VT-2521	VT-2521	Bleed wire	1

*Inlet and exhaust hose please state lengths required, i.e. 2 metres, 4 metres or 6 metres.

V635 – V675 PARTS DIAGRAM



11. WARRANTY CONDITIONS AND CLAIMS PROCEDURE

All products supplied by Fairport Construction Equipment Ltd (hereafter referred to as FCE) are warranted to be free of defects due to faulty materials or workmanship for a period of 12 months from the date of original despatch from FCE or as specified below:

Hydraulic hoses and hydraulic couplings – 3 months.
Hydraulic accumulators – 6 months.
Flexible drives – 6 months.
All spare parts used in repairs carried out by FCE or an authorized dealer or repairer – 3 months.

If the goods have been purchased through a stockist the above warranty periods also apply from receipt of the goods by the user of the equipment up to a total of a further 6 months from date of despatch from FCE whichever is earlier.

Filter elements, gauges and oils are specifically excluded from this warranty.

FCE shall at their option repair or replace during normal working hours goods accepted as faulty free of charge to the user.

For proprietary items such as engines, the original manufacturer's warranty and conditions shall apply.

CONDITIONS

The goods shall be returned at the purchaser's expense to FCE or to a destination FCE may reasonably direct. Carriage costs will be refunded if warranty is accepted.

Warranty claims will not be considered where there is evidence that failure has been caused by carelessness, improper use, negligence, inadequate servicing, incorrect engine speeds, fair wear and tear or non-compliance with instructions issued by the manufacturer.

To the extent permitted by law, the liability of FCE under this section is confined only to providing a remedy for defective goods and does not extend to any consequential loss, loss of profit, injury or damage suffered.

Warranty will not be accepted on dismantled goods unless dismantling was carried out with the written permission of FCE.

No claim shall be considered if other than genuine parts supplied by FCE have been used.

Products are only covered by this warranty in the country to where they were supplied by FCE.

Warranty on products applies only to the original user of the equipment.

This warranty shall not apply if the serial number or other identifying numbers or marks applied by FCE have been removed, defaced or are otherwise illegible.

CLAIMS PROCEDURE

Check that the goods are still under warranty before returning them to FCE (see above for warranty periods).

Return the goods to FCE with an order number for the work to proceed. If warranty is accepted no charge will be made. If warranty is not accepted a quotation will be given for the repair and the conditions under the section headed REPAIRS AND ESTIMATES will apply.

In the customer's interest, goods must be accompanied by documentation detailing the nature of the fault or its symptoms. Phrases such as 'Faulty' are unacceptable and will result in delays and possible charges to defray costs incurred in identifying the fault.

In the case of hydraulic breakers and power packs, both the breaker and the pack should be returned

12. REPAIRS AND ESTIMATES

When returning a machine, or an assembly for repair, always include an Advice Note quoting model and serial number of the machine.

An official order must also be forwarded to FCE giving detailed instructions. No repair work can be carried out unless covered by an official order.

An estimate will be submitted before proceeding with any repair. To partly cover the cost in dismantling, cleaning and inspection, a small charge will be made, this however will be waived upon receipt of your official instructions to proceed with the repair.

In the event of the estimate not being accepted, a further charge will be made to defray the rebuilding of the machine.

Estimates must be treated as approximate only as it may be found necessary to use additional parts on further examination.