

VWU POKERS AND POWER UNITS OPERATORS MANUAL



VWU FLEXIBLE DRIVE POKERS



- British built
- Full range of couplings and Power take off's
- Cover springs as standard
- Full range of poker head sizes
- Six metres as standard
- Rubber cover noses available
- Petrol, Diesel and electric drive units

Couplings



Metrix Claw Errutt Warsop Fyne Tremix Tag

Poker / Drives / Couplings								
Head diameter	mm	26	32	40	45	50	60	75
Head length	mm	335	335	423	483	483	600	603
Head weight	kg	0.92	1.27	2.84	4.50	4.63	5.50	9.00
Frequency	vpm	14000	14000	12500	10120	11500	11000	13000
Amplitude		1.18	1.18	1.52	2.56	1.82	2.22	1.24
Weighted vibration	m/s ²	10.77	11.55	17.07	18.58	21.53	15.51	12.84
Radius of effectiveness	cm	20	20	25	40	40	50	60
Shaft x cover	mm	9 x 26	9 x 26	13 x 32	13 x 32	13 x 32	13 x 32	13 x 32
Drive weight	kg	9.80	9.80	14.00	14.00	14.00	16.22	16.22
Weight with claw coupling		12.72	13.07	18.84	20.50	20.63	23.77	27.22

Couplings									
Coupling		Claw	Warsop	Metrix	Fyne	Errutt	Hayashi	Mikassa	Hexagon
Weight	kg	1.90	2.12	0.92	1.40	1.80	0.56	0.42	0.70

VWU POKERS AND POWER UNITS OPERATORS MANUAL



VWU FLEXIBLE DRIVE POKER POWER UNITS



PETROL / DIESEL DRIVE UNITS

Manufacturer	Honda	Robin	Loncin	Kohler	B & S	Robin	Hatz	Yanmar	Lombardini
Model no	GX160	EX17	G160	CS6	Vanguard	DY23	1B20	L48AED	15LD225
Power @ 3000 rpm	5.5	6.0	5.5	5.5	5.5	4.8	4.6	4.7	6.8
Width mm	400	400	400	400	400	400	400	400	400
Length mm	595	595	595	595	600	600	600	600	600
Height mm	470	470	470	470	525	525	525	525	525
Weight kg	27.00	27.00	25.50	30.00	31.9	41.00	43.00	41.00	41.00
Noise level dB(A)	74	75	75	77	75	77	78	88.5	82

HEAVY DUTY ELECTRIC DRIVE UNITS

	110/1/50	240/1/50	3 Phase	110/1/50	240/1/50	3Phase	240/1/50	3Phase
Model	L/D	L/D	L/D	H/D	H/D	H/D	H/D	H/D
Power @ 2800 rpm	1.5	1.5	1.5	1.5	1.5	1.5	2.2	2.2
Width mm	190	190	190	260	260	260	260	260
Length mm	440	440	440	600	600	600	600	600
Height mm	340	340	340	330	330	330	330	330
Weight kg	12.20	12.20	12.20	20.00	20.00	20.00	20.00	20.00
Noise level				70	70	70	70	70

GENERAL SAFETY

For your personal protection and safety of others around you and on site, please read and ensure you fully understand the following information. It is the responsibility of the operator to fully understand how to operate this equipment safely. If you are not sure consult your supervisor.

Points to remember:

- 1) Keep a unauthorised personnel at a safe distance from the work area.
- 2) Personal protective equipment (PPE) must be worn by the operator whenever this equipment is being used, i.e. Safety goggle, gloves, ear defenders, dust masks and steel capped footwear.
- 3) Read the engine / motor hand book supplied by the manufacturer.
- 4) Store Petrol / Diesel in the site designated area / storage.
- 5) Never dismantle or tamper with any seals or covers fitted. Always check the vibrator thoroughly before use for condition and safety. If any parts are damaged or missing DO NOT USE THE VIBRATOR until it is repaired or replaced.
- 6) The vibrator should never be left running out of concrete, as it will become hot and the internal parts will be damaged. Caution must be exercised when touching the vibrator head.
- 7) When the vibrator is not used for long periods of time, store it in a clean, dry and protected environment. Drain any petrol or diesel from the engine.
- 8) Some vibration from the vibrator is transmitted through the flexible hose to the operator's hands. The hose should not be held within one metre from the head of the vibrator at any time. Operational exposure time may need limiting if fingers become affected.
- 9) Do not operate the vibrator when you feel unwell, tired or when under the influence of alcohol or drugs.

COMMON CAUSES OF PREMATURE FAILURE

- 1) **Lack of maintenance.** We recommend that the poker and drive should be serviced at regular intervals, every six months or 500 hours. In arduous hire situation this should be reduced to every three months.
- 2) **Contamination of Nose and Rotor.** The nose and rotor tapers must perfectly clean and should be cleaned with a suitable solvent if contaminated with grease or oil. If kept in storage any rust must be cleaned out. Under no circumstances must the nose and rotor surfaces be lubricated
- 3) **Untightened components:** It is essential that the nose, bearing housing and body are extremely tight, if dismantled a small amount of Loctite should be used when screwing together. Check components are tight regularly.
- 4) **Excessive Speed.** The design speed of this range of flexible drive pokers is 2850 - 3000rpm. Speeds in excess of this **will** cause premature failure of the unit.
- 5) **Engagement of Poker at Speed.** The coupling on the flexible drive should be engaged before the power unit is started. If the coupling is engaged at speed the inner core may break and or the rotor stem break due to the high torque being applied.
- 6) **Heat Generation.** If the unit is left running out of concrete the heat generated will cause the bearings and seals to overheat and they **will** fail
- 7) **Storage.** If a poker is left in storage for long periods of time the oil seals will take a permanent set conforming to the alignment of the rotor. Once this has occurred the seals will perform a pumping action which will cause grease from the flexible drive and bearing to enter the poker head and cause failure.
- 8) **Site Damage,** If the drive is driven over on site or stretched over shuttering which permanently kinks the drive this will cause damage to the flexible drive and the shaft and cover will need to be replaced.

OPERATING INSTRUCTIONS IMPORTANT SAFETY INFORMATION

READ THIS MANUAL BEFORE OPERATING VIBRATORS. IT IS THE RESPONSIBILITY OF THE EMPLOYER TO PLACE THIS MANUAL INTO THE HANDS OF THE OPERATOR.

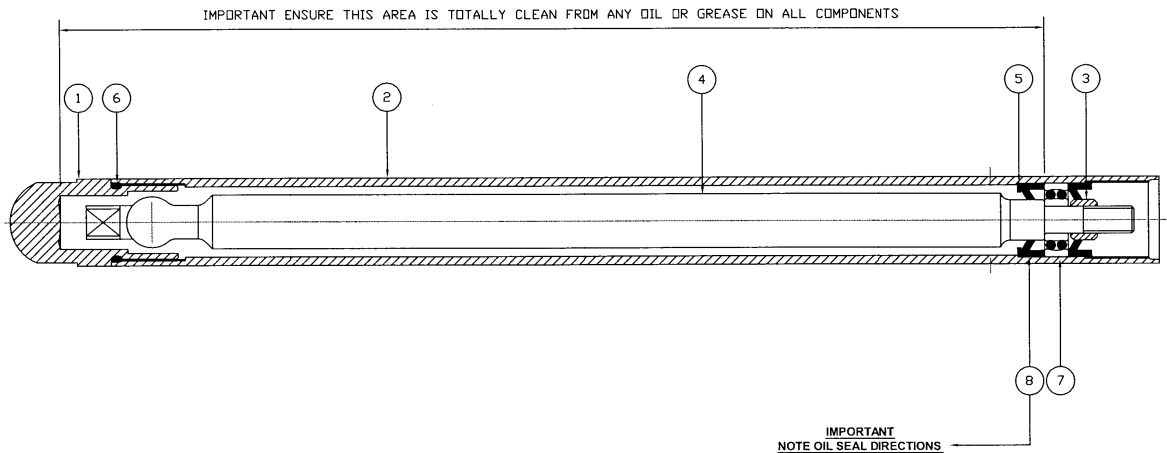
- 1 The VWU Flexible Drive immersion Vibrators are precision tools manufactured specifically for hand compaction of wet concrete.
- 2 Always wear eye protection when operating this vibrator.
- 3 Always wear ear protection when operating this vibrator.
- 4 The vibrator must be free to vibrate and not become trapped between shuttering and reinforcements.
- 5 Always operate, inspect and maintain this vibrator in accordance with all regulations (local, state, federal and country) which may apply to hand operated tools.
- 6 The vibrator head must not be held under any circumstances, when holding the vibrator always hold by the drive as near the power source as possible.
- 7 Excessive vibration, repetitive motions or uncomfortable positions are harmful to your hands and arms. Stop using the vibrator if discomfort, tingling feeling or pain occurs. Seek medical advice before resuming use.
- 8 Always read motor manual before using equipment and observe all safety recommendations in engine/motor manual.
- 9 DISCONNECT ELECTRICAL SUPPLY BEFORE SERVICING UNITS
- 10 ONLY A QUALIFIED ELECTRICIAN MAY SERVICE ELECTRIC DRIVE UNITS

OPERATING INSTRUCTIONS

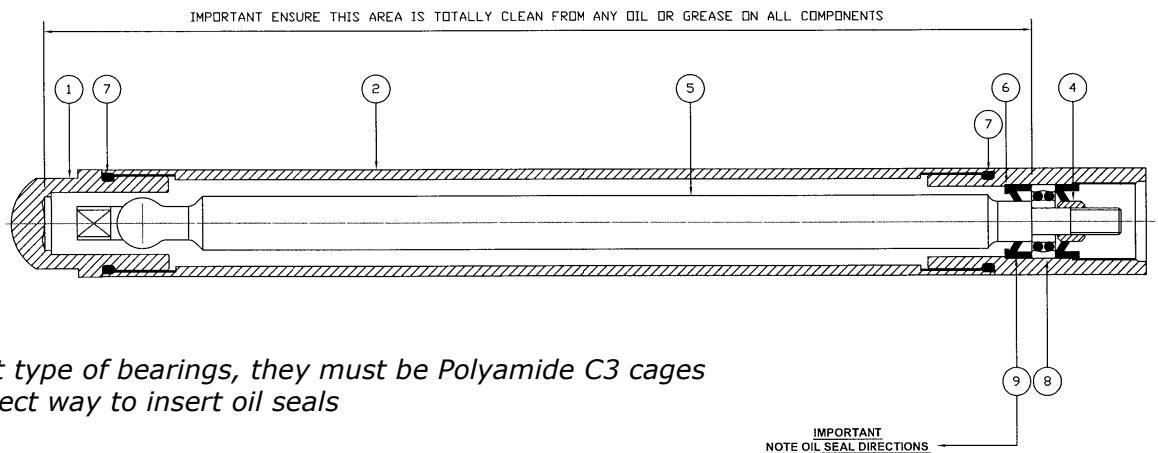
- 1 **Do** keep the flexible drive shaft as straight as possible and ensure that it does not twist or knot.
- 2 **Never** engage a poker vibrator drive to an engine that is running. Many accidents have been caused because operators have not switched off the engine.
- 3 When vibrating concrete **avoid** leaving poker vibrators in the same place for excessive periods.
- 4 **When** concrete vibration is finished switch off the machine.
- 5 The vibrator should **not** be laid on the ground and left running while waiting for the next batch of concrete, it **will** overheat the bearings
- 6 **Never** leave the vibrator drive hung over scaffolding or such resting places.
- 7 Do **not** drive over the flexible drive
- 8 **Never** drag the power unit around the site by the flexible drive.
- 9 **Never** run the poker vibrator at speeds in excess of 3000 rpm, this **will** cause the vibrator to fail.

VWU 26 / 32mm Poker Heads

26mm



32mm



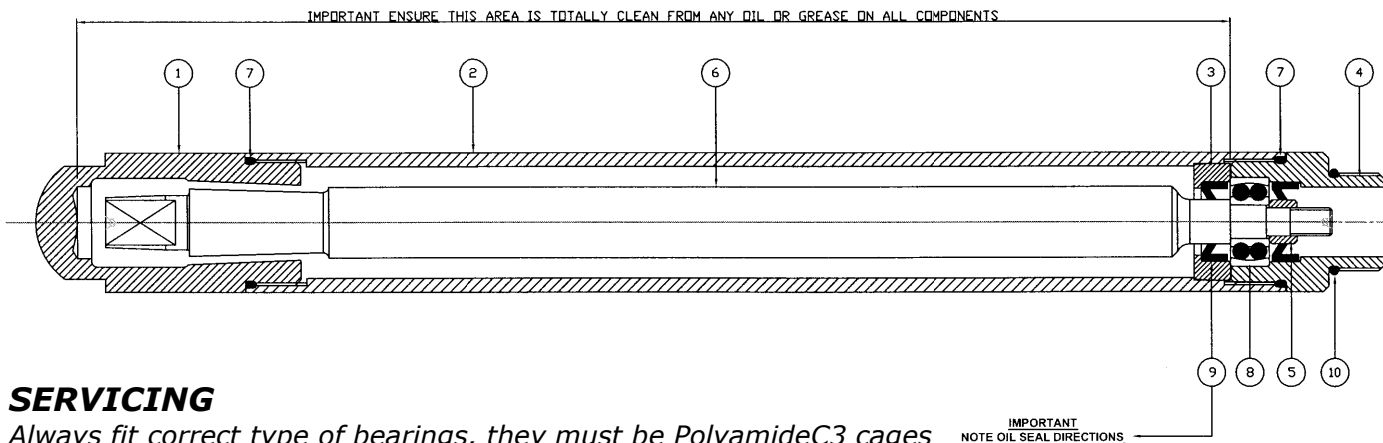
SERVICING

Always fit correct type of bearings, they must be Polyamide C3 cages
 Observe the correct way to insert oil seals

14510 VWU 26 mm Poker head			
Ref	Description	Qty	Part Number
	Poker Head	1	014510
1	Nosepiece	1	014430
1a	Neoprene Nosepiece	1	014755
2	Housing	1	014431
3	Oil seal bush	1	014434
4	Rotor	1	014435
5	Drift washer	1	014436
6	O Ring	1	046400
7	Bearing	1	046407
8	Oil seal	2	046411
9	Spares Kit	1	014510.1
10	Label	1	046480

14511 VWU 32 mm Poker head			
Ref	Description	Qty	Part Number
	Poker Head	1	014511
1	Nosepiece	1	014490
1a	Neoprene Nosepiece	1	014757
2	Housing	1	014491
3	Bearing Carrier	1	014492
4	Oil seal bush	1	014434
5	Rotor	1	014435
6	Drift washer	1	014436
7	O Ring	1	046401
8	Bearing	1	046407
9	Oil seal	2	046411
10	Spares Kit	1	014511.1
11	Label	1	046480

VWU 40 / 45 / 50 / 60 / 75mm Poker Heads



SERVICING

Always fit correct type of bearings, they must be PolyamideC3 cages
 Observe the correct way to insert oil seals

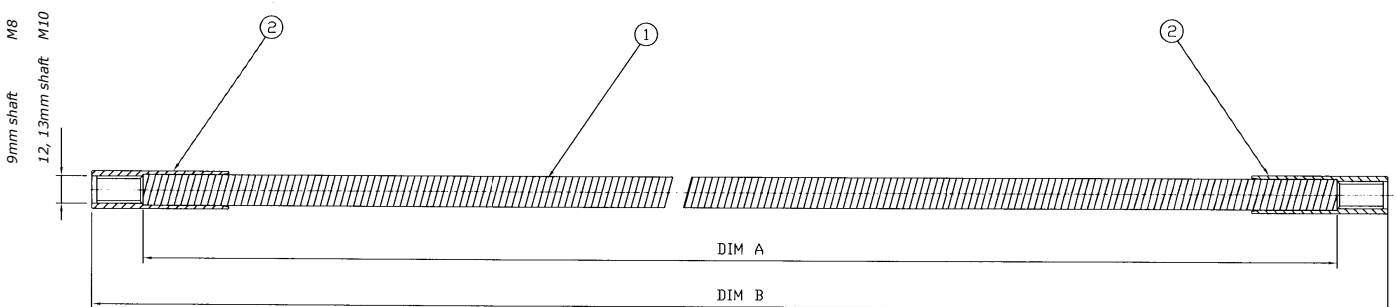
VWU 40 / 45 / 50/ 60 / 75 Poker Heads							
Ref		Qty	40mm Head	45mm Head	50mm Head	60mm Head	75mm Head
0	Poker Head		014512	014513	014514	014515	014516
1	Nosepiece	1	014440	014450	014460	014470	014480
1a	Neoprene Nosepiece	1	014759	014761	014763	014765	014767
2	Housing	1	014441	014451	014461	014471	014481
3	Oil seal carrier	1	014442	014452	014462	014472	014482
4	Bearing housing	1	014443	014453	014463	014473	014483
5	Oil seal bush	1	014444	014464	014464	014474	014474
6	Rotor	1	014445	014465	014465	014475	014475
7	O ring	2	046402	046404	046405	046406	046296
8	Bearing	1	046408	046409	046409	046410	046410
9	Oil seal	2	046412	046413	046413	046414	046414
10	O ring	1	046402	046402	046402	046402	046402
11	Grease BP LS3						
12	Spares Kit	1	014512.1	014513.1	014514.1	014515.1	014516.1
13	Label	1	046480	046480	046480	046480	046480

VWU POKERS AND POWER UNITS OPERATORS MANUAL

VWU Poker Drives

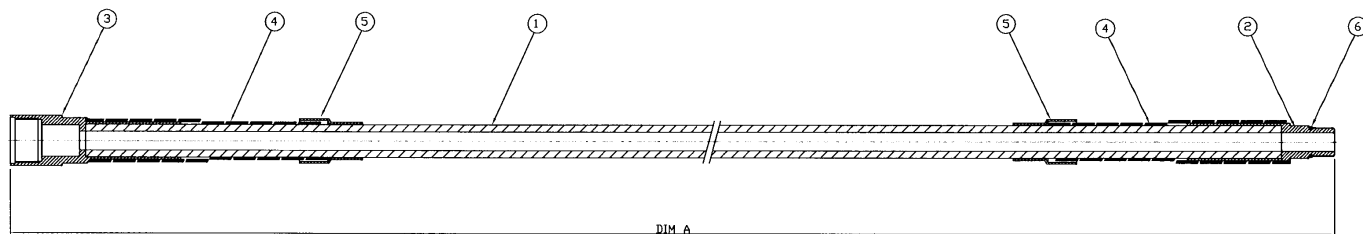
Poker assemblies				
Model	Description	Poker head	Drive	Coupling
VWU26	26 mm head / 6 mtr 9 x 26 drive / Claw Coupling	014510	014726	014400
VWU32	32 mm head / 6 mtr 9 x 26 drive / Claw Coupling	014511	014726	014400
VWU40	40 mm head / 6 mtr 13 x 32 drive / Claw Coupling	014512	014422	014400
VWU45	45 mm head / 6 mtr 13 x 32 drive / Claw Coupling	014513	014422	014400
VWU50	50 mm head / 6 mtr 13 x 32 drive / Claw Coupling	014514	014442	014400
VWU60	60 mm head / 6 mtr 13 x 32 drive / Claw Coupling	014515	014422	014400
VWU60	60 mm head / 6 mtr 13 x 35 drive / Claw Coupling	014515	014424	014400
VWU75	75 mm head / 6 mtr 13 x 32 drive / Claw Coupling	014516	014422	014400

Drive assemblies				
Model	Description	Drive	Shaft	Cover
9 x 26	6 mtr 9 x 26 Drive	014726	014415	014725
13 x 32	6 mtr 13 x 32 Drive	014422	014414	014421

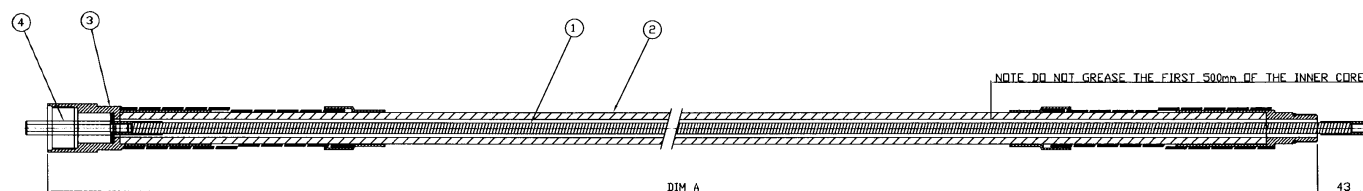


9 /13mm Inner core assembly									
Ref	Description	Qty	4 mtr	6mtr	9 mtr	Part No	4 mtr	6 mtr	9 mtr
	Inner core dia		9mm	9mm	9mm	12mm	13mm	13mm	13mm
	To ft Cover sizes		26mm	26mm	26mm	32mm	32,35mm	32,35mm	32,35mm
	Core w/o ends A		4.015mtr	6.015mtr	9.015mtr		4.015mtr	6.015mtr	9.015mtr
	Core c/w ends B		4.045mtr	6.045mtr	9.045mtr		4.045mtr	6.045mtr	9.045mtr
0	Assembly	1	014415-1	014415	014415-2		014414-1	014414	014414-2
1	Inner core	1	014500-1	014500	014500-2		014405-1	014405	014405-2
2	Shaft connection	2	014504	014504	014504	014521	014409	014409	014409

VWU Poker Drives

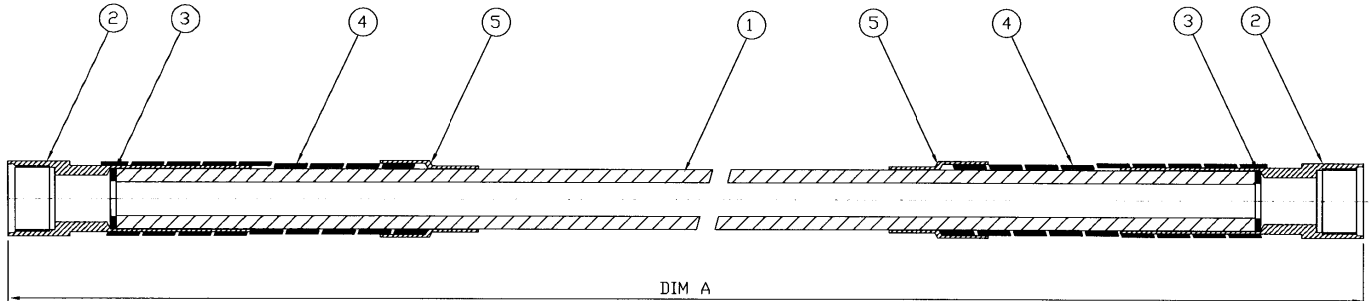


26mm Cover assembly					
Ref	Component	Qty	4 mtr 26mm	6 mtr 26mm	9 mtr 26mm
	Dimension A Overall length		4.057 mtr	6.057 mtr	9.057 mtr
0	Assembly	1	014725-1	014725	014725-2
1	Casing (w/o fittings)	1	014724-1	014724	014724-2
2	Cover adaptor (Poker end)	1	014720	014720	014720
3	Cover adaptor (Motor end)	1	014721	014721	014721
4	Cover spring	2	014722	014722	014722
5	Cover spring cup	2	014723	014723	014723
6	O Ring	1	046400	046400	046400

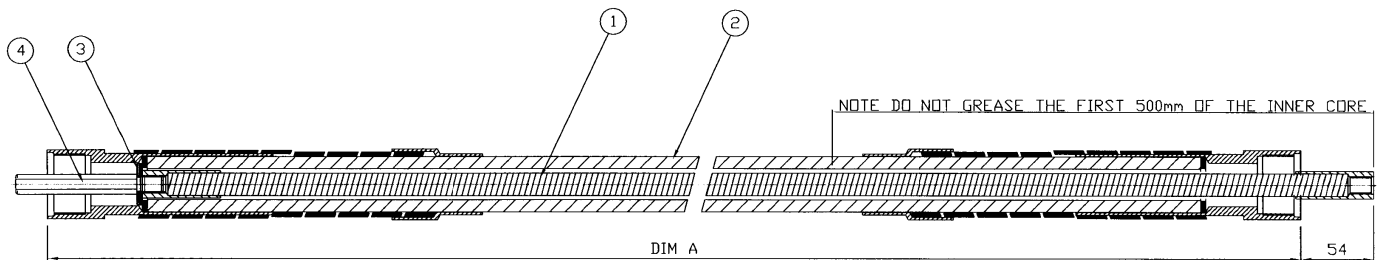


9 x 26mm Drive assembly					
Ref	Description	Qty	4 mtr 9 x 26	6 mtr 9 x 26	9 mtr 9 x 26
	Dimension A (Overall cover length)		4.057 mtr	6.057 mtr	9.057mtr
	Inner core length without tag		4.045 mtr	6.045 mtr	9.045 mtr
0	Assembly		014726-1	014726	014726-2
1	Inner core c/w fittings	1	014415-1	014415	014415-2
2	Outer cover c/w fittings	1	014725-1	014725	014725-2
3	Washer M8	1	014507	014507	014507
4	Tag M8	1	014508	014508	014508
5	Grease BP LS3				

VWU Poker Drives

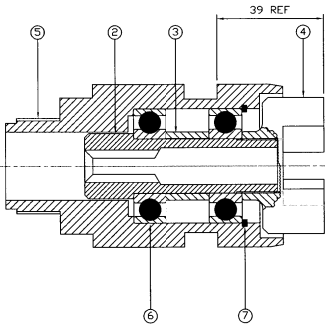


32 / 35mm Cover assembly					
Ref	Component	Qty	4 mtr	6 mtr	9 mtr
	Cover Diameter		32mm	32mm	32mm
	Overall length Dim A		4.046mtr	6.046mtr	9.046mtr
0	Assembly	1	014421-1	014421	014421-2
1	Casing w/o fittings	1	014406-1	014406	014406-1
2	Cover adaptor	2	014407	014407	014407
3	Cover adaptor washer	2	014408	014408	014408
4	Cover spring	2	014410	014410	014410
5	Cover spring cup	2	014411	014411	014411

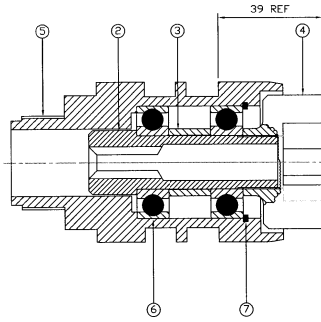


6mtr 13 x 32 / 35mm Drive assembly					
Ref	Description	Qty	4 mtr	6 mtr	9 mtr
	Drive Size		13 x 32	13 x 32	13 x 32
	Dimension A (Overall cover length)		4.046mtr	6.046mtr	9.046mtr
	Inner core length without tag		4.045mtr	6.045mtr	9.045mtr
0	Assembly	1	014422-1	014422	014422-2
1	Inner core c/w fittings	1	014414-1	014414	014414-2
2	Outer cover c/w fittings	1	014421-1	014421	014421-2
3	Washer M10	1	014412	014412	014412
4	Tag M10	1	014413	014413	014413
	Grease BP LS3				

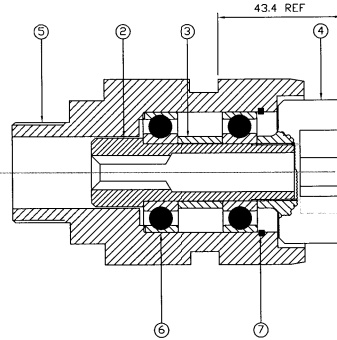
VWU Poker Drive Couplings



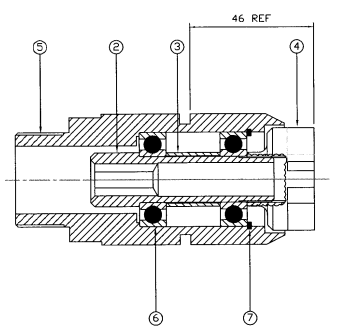
Claw Coupling
60mm



Errutt Coupling
60mm



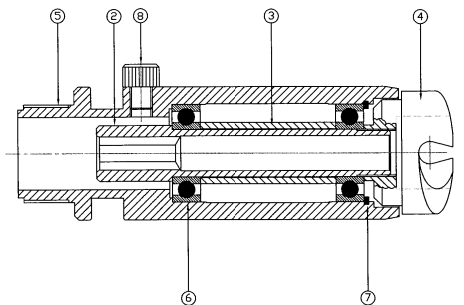
Warsop Coupling
65mm



Metrix Coupling
48.5mm

Poker Couplings						
	Description	Qty	Claw	Errutt	Warsop	Metrix
	Coupling Diameter		60mm	60mm	65mm	48.5mm
1	Assembly	1	014400	014701	014703	014600
2	Adaptor	1	014401	014401	014401	014601
3	Spacer	1	014402	014402	014402	014602
4	Drive connector	1	014403	014403	014403	014603
5	Housing	1	014404	014702	014704	014604
6	Bearing	2	046398	046398	046398	046418
7	Circlip	1	046399	046399	046399	046419

Poker Couplings			
	Qty	Description	Fyne
		Coupling Diameter	1 7/8"
1	1	Assembly	014706
2	1	Adaptor	014707
3	1	Spacer	014708
4	1	Drive connector	014709
5	1	Housing	014710
6	2	Bearing	046418
7	1	Circlip	046419
8	1	Socket Head Cap Screw	046422



Fyne Coupling
1 7/8"

ASSEMBLY / DISMANTLE 26/32 mm POKER

DISMANTLING PROCEDURE

- 1 Hold the poker body in a vice.
- 2 Unscrew the poker nose (left hand thread).
- 3 Using a suitable drift, drive the rotor out through the nose end , taking care not to damage the thread.
- 4 Retain the oil seal bush if undamaged.
- 5 From the nose end, drive out the removal ring, two oil seals and bearing.
- 6 Discard the oil seals and bearings as these must be replaced with new items on re-assembly

ASSEMBLY PROCEDURE

- 1 Thoroughly clean the body paying particular attention to the bore and the O ring diameters.
- 2 Fit new removal ring and new oil seal into the poker body with the open side of the oil seal facing out wards, using the oil seal fit tool.
- 3 Fit new bearing and oil seal bush.
- 4 Thoroughly clean the rotor and insert it into the nose end of the poker body ensuring not to damage or disturb the oil seal.
- 5 Fit the second new oil seal with the open side facing outwards.
This operation should be carried out using the oil seal fitting tool.
The purpose of the oil seals is to prevent the ingress from the drive into the poker body, therefore both seals face the same direction.
- 6 Thoroughly clean the nose and fit a new O ring over the thread into position against the shoulder.
- 7 ENSURE THE TAPER AT THE END OF THE ROTOR AND THE BORE OF THE POKER NOSE ARE CLEAN, DRY AND FREE OF ANY LUBRICANT.
- 8 Screw the nose (left hand thread) into the poker body.

ASSEMBLY / DISMANTLE 40/45/50/60/75 mm POKER

DISMANTLING PROCEDURE

- 1 Hold the poker body in a vice.
- 2 Unscrew the poker nose (left hand thread).
- 3 Using a suitable drift, drive the rotor out through the nose end , taking care not to damage the thread.
- 4 Unscrew the bearing housing from the poker (left hand thread)
- 5 Retain the oil seal bush if undamaged.
- 6 From the nose end drive out the oil seal.
- 7 Drive out the bearing and oil seal from the bearing housing and discard the oil seals and bearings as these must be replaced with new items on re-assembly

ASSEMBLY PROCEDURE

- 1 Thoroughly clean all the components paying particular attention to the bore and the O ring diameters.
- 2 Fit a new O ring over the thread into position against the shoulder at the drive end of the poker body.
- 3 Fit a and new oil seal into the poker body with the open side of the oil seal facing out wards, using the oil seal fit tool.
- 4 Fit new bearing and oil seal bush.
- 5 Thoroughly clean the rotor and insert it into the nose end of the poker body ensuring not to damage or disturb the oil seal.
- 6 Fit a new oil seal to the bearing housing with the open side facing outwards. This operation should be carried out using the oil seal fitting tool. The purpose of the oil seals is to prevent the ingress of grease from the drive into the poker body, therefore both seals face the same direction.
- 7 Screw the bearing housing into the body (left hand thread).
- 8 Thoroughly clean the nose and fit a new O ring over the thread into position against the shoulder.
- 9 ENSURE THE TAPER AT THE END OF THE ROTOR AND THE BORE OF THE POKER NOSE ARE CLEAN, DRY AND FREE OF ANY LUBRICANT.
- 10 Screw the nose (left hand thread) into the poker body.

REMOVAL / FITTING OF POKER FROM DRIVE / TO DRIVE

REMOVAL / FITTING OF POKER FROM DRIVE / TO DRIVE

- 1 Hold the poker body in a vice and remove the poker nose (left hand thread).*
- 2 Unscrew the poker end cover adaptor (left hand thread).*
- 3 Withdraw the cover adaptor to expose the inner core connector.*
- 4 Hold the inner core by clamping a pair of pipe grips onto the inner core connector. Using a suitable open ended spanner over the flat of the nose end of the rotor, turn the rotor in a anti-clockwise direction thus disconnecting the inner core from the poker (right hand thread).*
- 5 If no work is to be carried out to the poker loosely refit the poker nose including a new O ring.*

FITTING OF POKER TO DRIVE

- 1 Hold the poker body in a vice.*
- 2 Remove the poker nose from the body (left hand thread).*
- 3 On the 25mm drive only fit a new O ring over the thread against the shoulder of the drive cover adaptor .*
- 4 Clamp the inner core connector with a pair of pipe grips.*
- 5 Screw the connector onto the rotor by turning the rotor in a clockwise direction (right hand thread) using a suitable open ended spanner over the flat of the nose end.*
- 6 Attach the drive cover to the bearing housing and fully tighten (left hand thread).*
- 7 ENSURE that the taper at the end of the rotor and the bore of the nose are clean, dry, and totally free of any grease or lubricant.*
- 8 Replace the poker nose and fully tighten ensuring a metal contact at the mating faces(left hand thread)*

FLEXIBLE DRIVE SERVICING

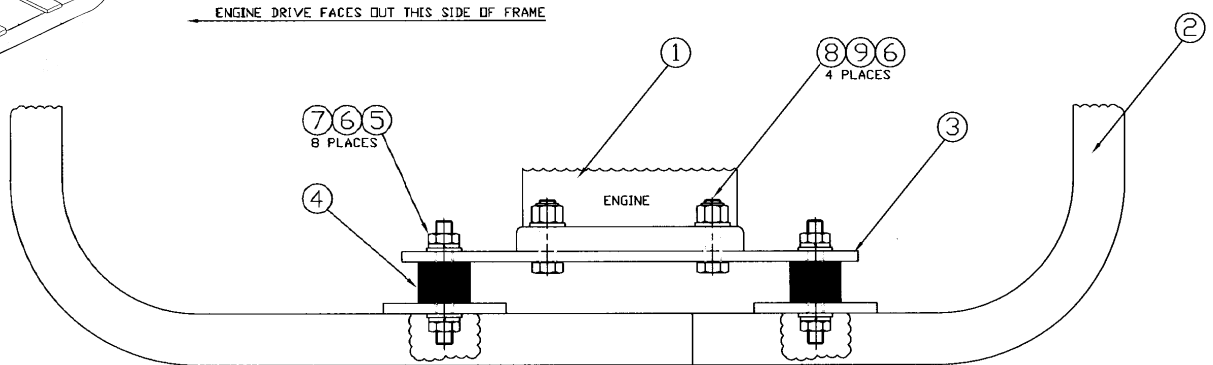
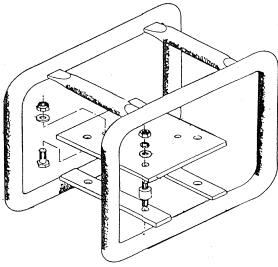
FLEXIBLE DRIVE SERVICING

- 1 Remove the coupling from the flexible drive by clamping the motor end cover adaptor on the spanner flats provided and unscrew the claw coupling, this has a left hand thread.*
- 2 Withdraw the inner core from the drive end ensuring that it does not contact any dirt.*
- 3 Wipe the inner core clean and examine it for any kind of damage and/or wear. If either is evident then it must be replaced.*
- 4 Examine the outer cover for damage and kinking and replace if necessary.*
- 5 Remove the hexagonal drive tag and wear washer from the inner core and fit them to the other end. This will extend the working life of the inner core by equally distributing wear.*
- 6 Apply the Grease (Lithium BP LS3) sparingly to the inner so that a fine film remains on its surface. Be particularly careful to leave only the lightest coating within 500 mm of the poker end.*
- 7 Replace the inner core inside the cover.*
- 8 On the 25mm drive only refit a new O ring.*

VWU POKERS AND POWER UNITS OPERATORS MANUAL

Important

All Diesel and Petrol must be removed from fuel tanks prior to transport.



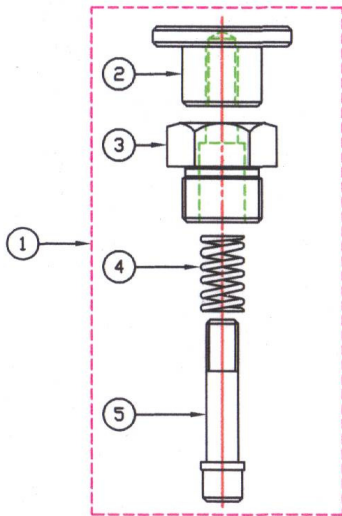
VWU Petrol Poker Power Unit

Ref	Description	Qty	Petrol	Briggs
0	Frame Assembly	1	015056	015057
1a	Honda GX160 Oil Alert 3/4 Shaft	1	046452	-
1b	Honda GX160 Oil Alert Taper Shaft	1	046453	-
1c	Kohler C6	1	046470	-
1d	Robin EX17 DU Oil Alert	1	046454	-
1e	Robin EY20 DU Oil Alert	1	046466	-
1f	Loncin G160	1	046455	-
1g	Briggs and Stratton 5.5 hp	1	-	046471
2	Frame	1	015009	015007
3	Bedplate	1	015011	015010
4	Engine Mounts	4	046464	046464
5	Locknut M8	8	046439	046439
6	Plain Washers M8	8	046425	046425
7	Spring Washers M8	8	046437	046437
8	Nylon Insert Nut M8	4	046423	046423
6	Plain Washer M8	4	046425	046425
9	Hex Head Bolt M8 x 45	4	046438	046438
10	Serial No Plate	1		
11	Label	1	046480	046480
12	Machine Label	1		
13	CE Warning label	1		

Engine / Motor Power Take Off

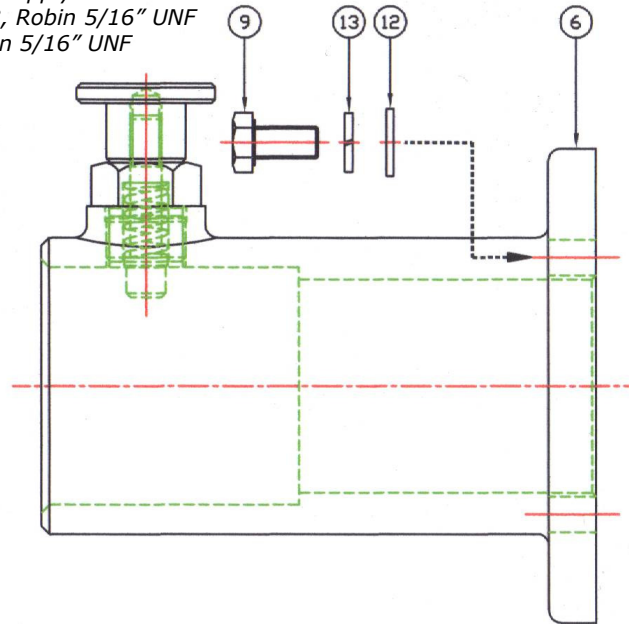
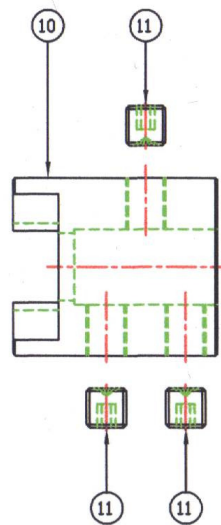
Assembly

WHEN ASSEMBLING KNOB TO PIN LOCTITE (OR SIMILAR ADHESIVE) SHOULD BE USED. CARE SHOULD BE TAKEN TO ENSURE THAT THE ADHESIVE DOES NOT COME INTO CONTACT WITH THE PLUNGER NUT.



Ordering

When ordering please state, which make of engine you are using to ensure we supply the correct bolts.
 Honda 5/16" UNF, Hatz M8, Robin 5/16" UNF
 Briggs 5/16" UNF / M8, Lifan 5/16" UNF



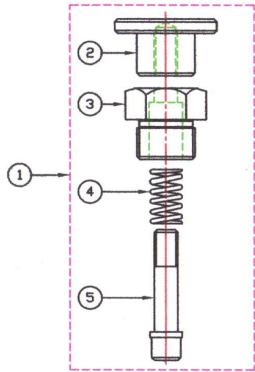
Petrol and Diesel Power Take Off (4Holes on 92/115 mm P C D) **Cast Housing** Drawing no 15060

Ref	Description	Qty	Claw P/D
	Application		3/4" 92 PCD
	Assembly		PTO-01-3/4
1	Plunger assy (Item 3,4,5.6)	1	015002
2	Plunger Knob	1	015022
3	Plunger Housing	1	015020
4	Plunger Spring Flexo M225705	1	046421
5	Plunger Pin	1	015021
6	Housing	1	015035
9	Hex Head Set Screw 5/16 UNC x 1 "	4	046444
9a	Hex Head Set Screw 5/16 UNF x 1"	4	046476
9b	Hex Head Set Screw M8 x 25	4	046430
10	Drive Dog 3/4 Keyway Bore (Petrol / Diesel)	1	015000
11	Key 3/16 Sq x 1 1/2" (Spares only)	1	046431
12	Socket Screw M10 x 10 Nylon patch (Spares only)	3	046426
13	Plain Washer M8	4	046425
14	Spring Washer M8	4	046437
	Loctite (Always Loctite Pin and Knob)		

Engine / Motor Power Take Off

Assembly

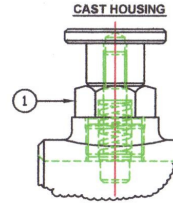
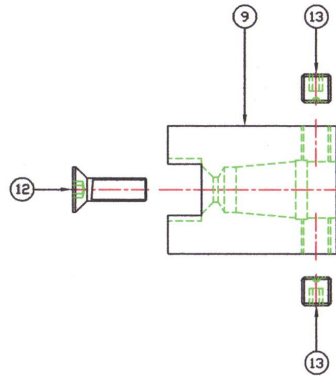
WHEN ASSEMBLING KNOB TO PIN LOCTITE (OR SIMILAR ADHESIVE) SHOULD BE USED. CARE SHOULD BE TAKEN TO ENSURE THAT THE ADHESIVE DOES NOT COME INTO CONTACT WITH THE PLUNGER NUT / HOUSING.



Ordering

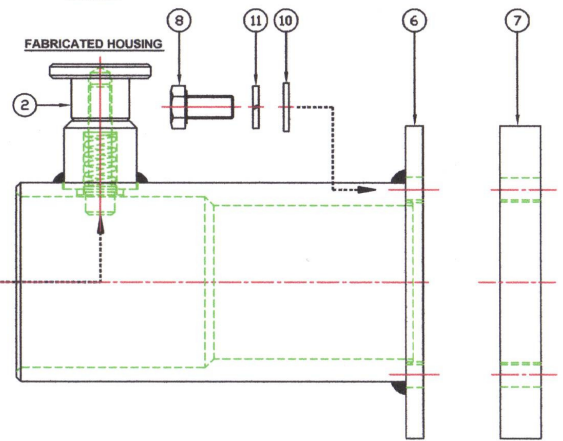
When ordering please state, which make of engine you are using to ensure we supply the correct bolts.

- Honda 5/16" UNF
- Hatz M8
- Robin 5/16" UNF
- Briggs 5/16" UNF / M8



Claw *

Standard production is the cast type PTO



Petrol and Diesel Power Take Off (4Holes on 92 mm P C D) **Taper Shaft** Drawing No 15062

Ref	Description	Qty	Claw *	Warsop	Metrix
	Power Take Off Nominal Bore		60mm	65mm	48.5mm
	Production Method		Casting	Fabrication	Fabrication
	Drive Dog Bore		Taper	Taper	Taper
	Assembly		PTO-01-T	PTO-03-T	PTO-02-T
1	Plunger assembly (Item 3,4,5,6)	1	015002	-	-
1a	Plunger Kit (Items 2,4,5)	1		15002.1	15002.1
2	Plunger Knob	1	015022	015022	015022
3	Plunger Housing	1	015020	015020	015020
4	Plunger Spring Flexo M225705	1	046421	046421	046421
5	Plunger Pin	1	015021	015021	015025
6	Housing	1	015035	015046	015044
7	Spacing Plate (Replaces 1 x 6mm & 1 x 8mm plate)	1	015030	015030	015030
8	Hex Head Set Screw 5/16 UNC x 1 1/4"	4	046443	046443	046443
8a	Hex Head Set Screw 5/16 UNF x 1 1/4"	4	046487	046487	046487
8b	Hex Head Set Screw M8 x 30	4	046429	046429	046429
9	Drive Dog Taper Shaft (Generator spec)	1	015005	015005	015005
10	Plain Washer M8	4	046425	046425	046425
11	Spring Washer M8	4	046437	046437	046437
12	Socket Countersunk Screw 5/16 UNF x 1"	1	046476	046478	046478
13	Socket Set Screw M10 x 10 c/w nylon patch	2	046426	046426	046426
	Loctite (Always Loctite Pin and Knob)				