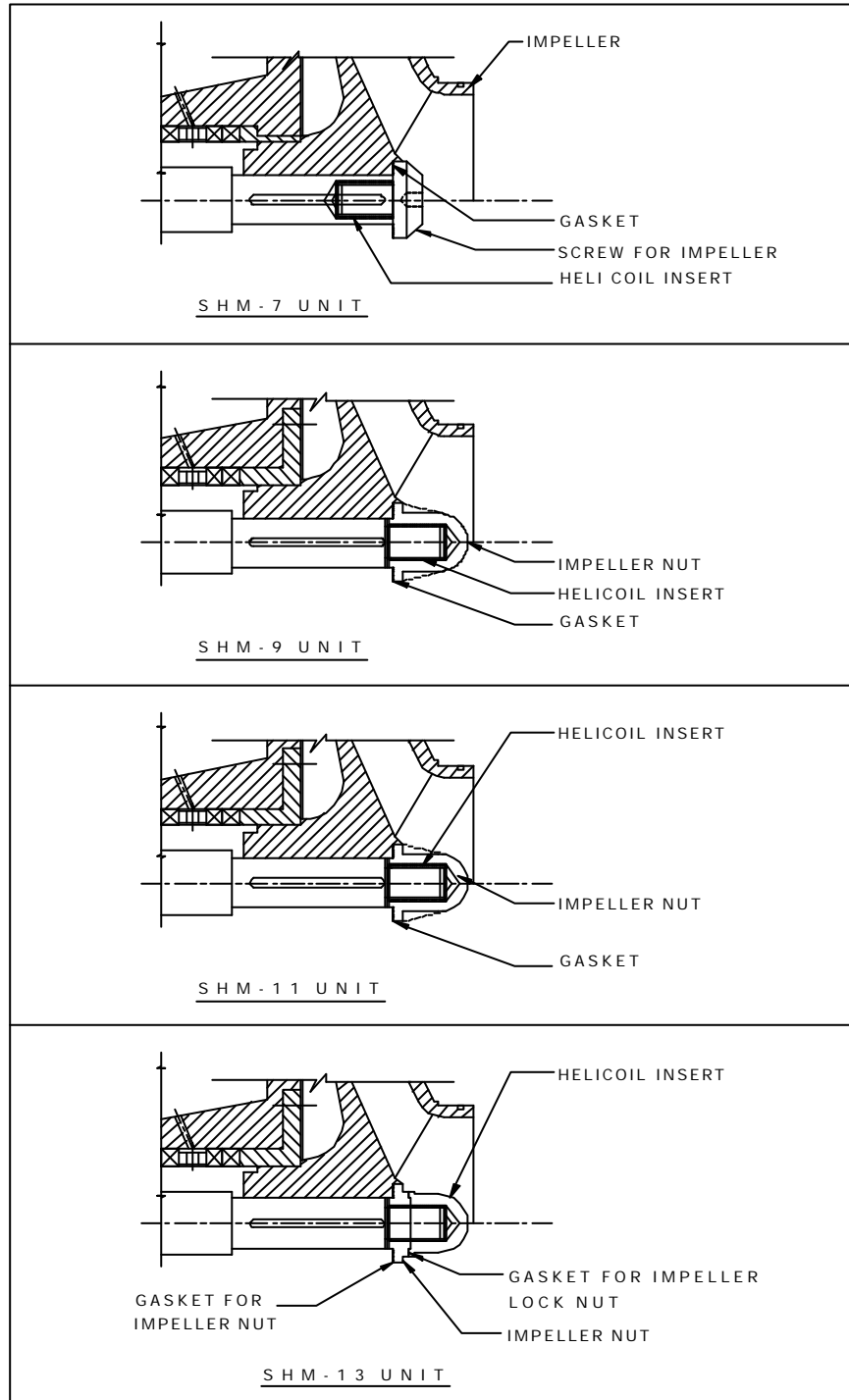


- 6.3.11 Put the gasket (51500) on the impeller hub in proper position.
- 6.3.12 Fit the impeller key (32000) on the shaft. It should enter partly in the shaft sleeve.
- 6.3.13 Put the casing cover (22000) on the bearing housing. Tighten it by studs and nuts to the bearing housing.
- 6.3.14 Push the impeller (15100/15300/16600) on the shaft till it touches the shaft sleeve.
- 6.3.15 Fix the coupling key (32100) on shaft at D.E. Put the spacer coupling half pump side on the shaft and tighten the grub screw to fix the coupling.



**Fig. 5**

**PART LIST FOR SHM PUMPS**

<b>PART CODE</b>	<b>PART DESCRIPTION</b>
10500	Pump casing
13000	Pump casing spacer
*15100	Impeller enclosed
*15300	Impeller semi open
*16600	Impeller free flow
*18000	Pump shaft
*19000	Casing wear ring
20900	Spacer for cartridge
22000	Casing cover
22100	Cooling chamber
22400	Clamping plate
22700	Lantern ring
22900	Split gland
23600	Liquid deflector
24000	Bearing housing
24100	Bearing cartridge
25100	Support foot (7-unit)
*26001	Bearing driving end
*26002	Bearing non driving end
27100	Bearing cover
30000	Lifting eye bolt
*31100	Shaft sleeve
*32000	Key for impeller
*32100	Key for coupling
*33001	Impeller lock nut
*33002	Impeller nut
33600	Round lock nut
33701	Accorn nut for wear plate
33702	Hex. nut for inspection hole cover
*35000	Stuffing box bush
*41500	Lock washer for bearing nut
*43001	Gland packing
44101	Grease nipple for bearing cover
44102	Grease nipple for bearing cartridge
44103	Grease nipple for bearing sealing
44300	Constant level oiler
44400	Oil feeding plug
*46000	Wear plate
47000	Inspection hole cover for pump casing
47101	Protection cover- delivery side
47102	Protection cover suction side
*47900	Hel. Screw lock insert
*48500	Internal circlip for bearing cartridge
*50001	Oil seal driving side
*50002	Oil seal non driving side
*51100	Gasket for casing cover
*51201	Gasket for cooling chamber inside

- 3.3.4 Put oil seal in the bearing cartridge DE. Insert internal circlip (485) in the inner groove of the cartridge. Put a spacer on bearing cartridge in case of SHM-N, SHM-R and SHM-P pumps and shims in case of SHM-Q pumps. Insert the bearing cartridge from DE of the pump shaft.
- 3.3.5 Insert the shaft alongwith ball bearings at DE and NDE and bearing cartridge at DE into the bearing housing from driving end.
- 3.3.6 Tighten the bearing cartridge on the bearing housing with the help of hexagonal screws.
- 3.3.7 Fit the oil seal in bearing cover PS. Tighten the bearing cover PS on bearing housing with the help of hexagonal screws.
- 3.3.8 Slide the liquid deflector from NDE of shaft. Tighten the deflector on shaft by using grub screws.
- 3.3.9 Push the shaft sleeve (31100) into the shaft till it touches the collar on the shaft.
- 3.3.10 Fit the stuffing box neck bush (35000) into the casing cover if worn out.
- 3.3.11 Put the gasket (51500) on the impeller hub in proper position.
- 3.3.12 Fit the impeller key (32000) on the shaft. It should enter partly in the shaft sleeve.
- 3.3.13 Put the casing cover (22000) on the bearing housing. Tighten it by studs and nuts to the bearing housing.
- 3.3.14 Push the impeller (15100) on the shaft till it touches the shaft sleeve.
- 3.3.15 Fix the coupling key on shaft at D.E. Put the pump side coupling half on the shaft and tighten the grub screw to fix the coupling.
- 3.3.16 Insert the helicoil lock insert (47900) in the impeller nut for 9 & 11 units and in the shaft for 7 unit, put gasket (68200) on it and tighten it in the shaft by holding the pump coupling hub. For unit-13 pumps tighten impeller nut & lock nut to tighten the impeller without helicoil insert.
- 3.3.17 Slide this complete backpullout assembly into pump casing duly fitted with studs. Tighten all nuts on the stud firmly and evenly.
- 3.3.18 In case of pumps with gland packings only, insert the gland packing (43001) and lantern ring in two halves (22700) in the order of 2 + L + 3.
- 3.3.19 Put the split gland in two halves (22900) with clamping plate (22400) and tighten the gland stud nuts.
- 3.3.20 Rotate the shaft by hand and ensure free rotation.
- 3.3.21 Fit all accessories such as sealing water, flushing water, cooling water connections as per order.
- 3.3.22 Make suction and delivery piping connections properly.

#### **4. MAINTENANCE**

Preventive maintenance schedule is the periodical checks and precautions by which possibilities of failure and breakdowns are minimised.

### SPARE PARTS LIST OF SHVT PUMP

SR.	PART CODE	DESCRIPTION
01	10500	PUMP CASING
02	* 15100	ENCLOSED IMPELLER
03	* 18000	PUMP SHAFT
04	* 19000	CASING WEAR RING
05	20900	SPACER FOR BRG. CARTRIDGE
06	22000	CASING COVER
07	22400	CLAMPING PLATE
08	* 22700	LANTERN RING
09	* 22900	SPLIT GLAND
10	* 23600	LIQUID DEFLECTOR
11	* 31100	SHAFT SLEEVE
12	* 32000	KEY FOR IMPELLER
13	* 35000	STUFFING BOX BUSH
14	* 43000	GLAND PACKING
15	24000	BEARING HOUSING
16	24100	BEARING CARTRIDGE
17	* 26001	BALL BEARING
18	* 26002	BALL BEARING
19	27100	BEARING COVER PS
20	30000	LIFTING EYEBOLT
21	* 32100	KEY FOR COUPLING
22	* 33600	BEARING LOCK NUT
23	* 41500	LOCK WASHER
24	44101	GREASE NIPPLE
25	44102	GREASE NIPPLE
26	48500	INTERNAL CIRCLIP
27	* 50001	OIL SEAL (D.S.)
28	* 50002	OIL SEAL (P.S.)
29	* 51100	GASKET FOR PUMP CASING
30	* 51500	GASKET FOR SHAFT SLEEVE
31	* 68200	GASKET FOR IMPELLER NUT
32	60500	PIPE PLUG FOR BRG. HSG. DRAIN
33	29000	MOTOR STOOL
34	47900	HELICOIL INSERT
35	33001	IMPELLER NUT
36	46700	SUPPORT PLATE
37	38100	SOLE PLATE
38	18500	METAFLEX FLEXIBLE DRIVE SHAFT

\* RECOMMENDED SPARES.