

# TASC UNIT

## INSTALLATION AND MAINTENANCE INSTRUCTIONS. MODEL 100CD

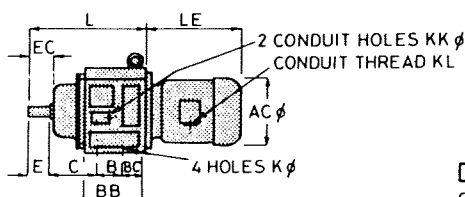
### INSTALLATION AND USE OF THE TASC UNIT

The TASC Unit is an air-cooled electro-magnetic induction coupling driven by a fixed-speed a.c. motor generally fitted direct to the TASC Unit. The drive, with its control panel and remote control station, provides stepless control of speed and torque.

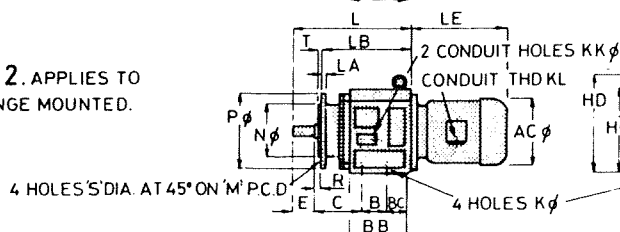
INSTALLATION : Follow the instructions to avoid damage and to ensure efficient running.

1. ATTITUDE 100 CD TASC Units can be mounted in any attitude.
2. VENTILATION Do not obstruct ventilation apertures, especially in hot ambient conditions.
3. TRANSMISSION Coupling to the driven machine may be by Vee Belt, toothed belt, chain or flexible coupling. Never use solid couplings. Take care not to exceed the recommended side load of 68 kg (150 lbs) midway along shaft.
4. FITTING PULLEYS Pulleys, couplings and gearbox pinions must never be hammered on to the shaft or internal damage to the TASC Unit will result.
5. DRIVE ADJUSTMENT
  - (a) Vee belts and chains. When tensioning, ensure that pulleys or sprockets are in line. Do not over tension.
  - (b) Toothed belts. Pulleys must be in line and a light tension applied to the belt.
  - (c) Flexible couplings. Align as accurately as possible to avoid vibration and undue wear.
6. GUARDS Any guards, covers or filters must be replaced after installation.
7. ATMOSPHERE
  - (a) Dusty. 100 CD TASC Units will tolerate dusty conditions provided there are no ferrous particles present.
  - (b) Corrosive gases or Marine applications. We can protect specially if required.
  - (c) High humidity. We will supply a unit suitably protected. Code H.
  - (d) Water spray or rain. We will supply a hoseproofed unit. Code N.
8. TEMPERATURE If the ambient temperature is over 35°C or the outlet air temperature over 85°C for types 100 CD2 or 82°C for types 100 CD4, the TASC Unit must be derated. Either the minimum speed must be increased or the torque reduced e.g. by increased gear ratio.

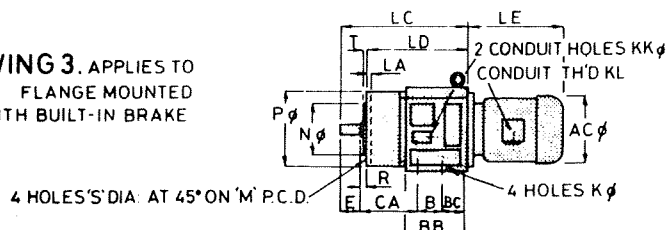
**DRAWING 1.** APPLIES TO BASIC UNITS (NO CODE LETTERS). CODE J, WITH FILTERS.



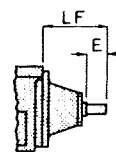
**DRAWING 2.** APPLIES TO CODE F, FLANGE MOUNTED.



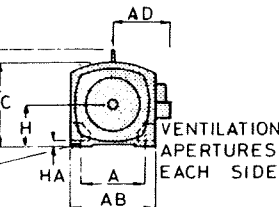
**DRAWING 3.** APPLIES TO CODE B FLANGE MOUNTED WITH BUILT-IN BRAKE



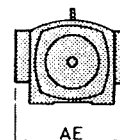
**DRAWING 4.** APPLIES TO CODE K, WITH INPUT SHAFT



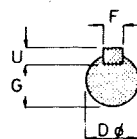
**DRAWING 5** APPLIES TO ALL TYPES.



**DRAWING 6** APPLIES TO CODE N HOSEPROOF



**SHAFT**



A	AB	AD	AE	B	BB	BC	C	CA	D	E	EC	F	G	H	HA	HC	HD	K	KK	L	LA	LB	LC	LD	LF	M	N	P	R	S	T	U
160	216	157	292	60	159	67	95	169	191	6	47	6	15.4	100	10	210	256	12	21	264	10	224	337	297	121	165	130	198	0	11	3.5	6

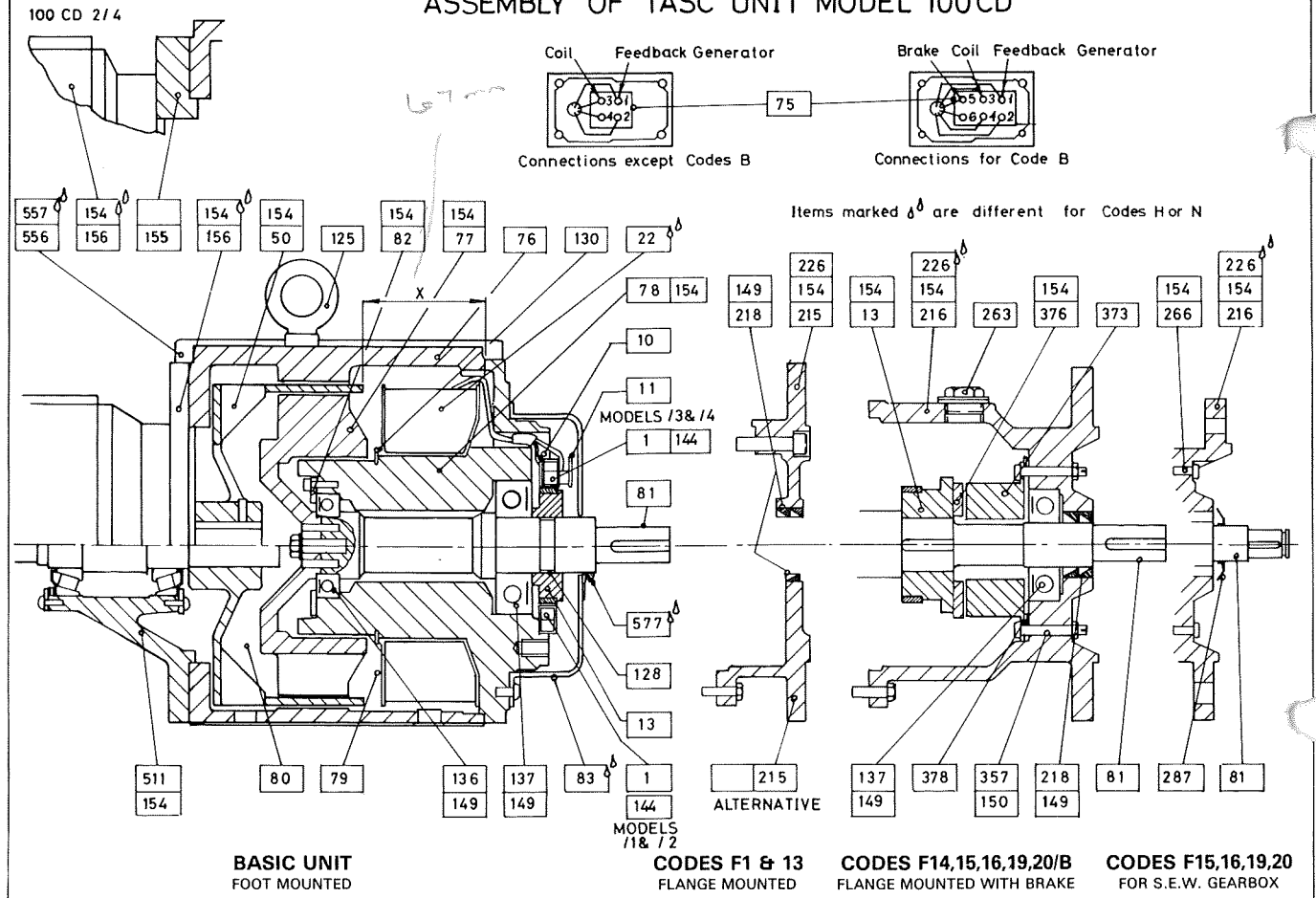
100 CD4/2			100 CD4/3			100 CD4/4			100 CD2/1			100 CD2/2			100 CD2/3			100 CD2/4		
AC	KL	LE	AC	KL	LE	AC	KL	LE	AC	KL	LE	AC	KL	LE	AC	KL	LE	AC	KL	LE
164	M20	251	181	M20	264	181	M20	289	164	M20	251	181	M20	264	181	M20	289	208	M20	329

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# TASC Drives Ltd

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# ASSEMBLY OF TASC UNIT MODEL 100CD



## TOOLS REQUIRED

Hexagon Keys 2.5, 4, 5, 6, 8 mm  
Spanners 8, 10, 13, 17 mm A/F  
Box Spanner 7 mm for terminal nuts  
Hide Hammer

Screwdrivers  
Degreaser  
Pulley Drawer

Ordinary and Philips head (size I)  
White spirit or safe Chlorinated Solvent  
3 legged

## INSTRUCTIONS TO FOLLOW TO CHANGE COMPONENTS

To Change	Instructions to Follow
Item 1 Feedback Generator Stator	DI, 2, 4 R10, 13, 14
„ 13 Feedback Generator Armature	DI, 2, 4, 7, 9 R6, 7, 8, 10, 13, 14
„ 22 Coil	DI, 2, 5, 10 R4, 9, 13, 14
„ 50 Torque Tube Assembly	DI, 11 R3, 14
„ 81 Output Shaft	DI, 2, 5, 7, 8 R6, 8, 9, 13, 14
„ 136 Inner Bearing	DI, 5, 6 R5, 9, 14
„ 137 Outer Bearing	DI, 2, 5, 7, 8 R6, 8, 9, 13, 14
„ 156 Motor	DI, 11, 12 R2, 3, 14
„ 218 Oil Seal	DI, 2, 3 R11, 13, 14
„ 373 Brake Stator	DI, 2 R12, 13, 14
„ 376 Brake Armature	DI, 2, 9 R7, 12, 13, 14
„ 511 Input Assembly	DI, 11, 12, 13 R1, 2, 3, 14

## DISMANTLING Refer to assembly drawing for item numbers.

- D1 Disconnect wires from Terminal Block 75. Remove complete output assembly from Casing 76.
- D2 (a) Basic Units and Codes F1, 13. Remove Output Cover 83 or Output Flange 215.  
(b) Codes F14 to 20 without brake. Remove Oil Flinger 287 if fitted, then Output Flange 216. Withdraw Bearing 137. Remove Feedback Generator Armature 13.  
(c) Codes F14 to 20 with brake (Codes B). Remove Oil Flinger 287 if fitted. Screw in Brake Adjusting Screws 357 to clear Output Flange 216. Remove flange and Bearing 137, remove Brake Stator 373 with brake leads, adjusting screws and Spring Washer 378. Remove Feedback Generator Armature 13 with Brake Armature 376.
- D3 Codes F. Remove Oil Seal(s) 218 from Output Flange 215 or 216.
- D4 Remove Feedback Generator Stator 1, first cutting terminal tags off leads (numbered 1 and 2), baring the wire ends and twisting them together over a looped length of thin, strong string. Draw the wires through the slot in Stator 78. Leave the string in the slot.
- D5 Stand Stator 78, with Polewheel 77 upwards, on the large machined front face with Output Shaft 81 in a recess. Remove Polewheel 77 and press Output Shaft 81 out of Bearing 136.
- D6 Remove Bearing Clamp 82 and Bearing 136 from Stator 78.
- D7 Basic Units and Code F1. Remove Feedback Generator Armature 13 from Output Shaft 81.
- D8 Basic Units and Code F1. Draw Bearing 137 off Output Shaft 81.
- D9 Codes B only. Separate Brake Armature 376 from Feedback Generator Armature 13.
- D10 Remove Coil Locating Ring 130 from Stator 78 and Lever off Coil 22.
- D11 Draw Torque Tube Assembly 50 from shaft of Motor 156 or Input Assembly 511 using 3-legged drawers.
- D12 Separate Motor 156 or Input Assembly 511 from Casing 76. For 100 CD2/4, remove Adaptor 156 from motor.
- D13 To dismantle Input Assembly, remove outer bearing cap, pull out the shaft assembly and withdraw bearing inner races from shaft.

**SPARES LIST** Items marked (a) are most likely to need replacement, (b) are occasionally required, (c) are rarely needed.

For item numbers refer to the Assembly Drawing.

Unless otherwise stated, Part Numbers apply to all models.

Item No.	Description	Qty.	Cat.	Part No.
13	FEEDBACK GENERATOR ARMATURE. Basic and Codes F1, 13 fixed by Star Tolerance Ring 128 Codes: F14, 15, 16, 19, 20 fixed by 2-Set Screws 41968 M5 x 10 Codes: B fixed by Key 60196 8 x 7 x 20 & 2-Set Screws 41968 M5 x 10	1 1 1	b b b	23076 24087 23079
75	TERMINAL BLOCK, 4 way. Basic and Codes F } fixed by screw 41947, Cheese hd M5 x 12 6 way. Codes B } and tension pin 43075, 4 φ x 12	1 1	c c	18874 18875
77	POLEWHEEL, fixed by screw 42756, Hex hd M8 x 25 and 2 tension pins 43144, 5 φ x 20	1	c	18954
78	STATOR. All models except 100 CD2/6 } fixed by 4 screws 42756, Hex hd M8 x 25 100 CD2/6 }	1 1	c c	18975 18993
79	GUARD GRILLE (INTAKE). All models except Code N } fixed by 16 screws 43136, Pan hd M5 x 8. GUARD GRILLE (OUTLET). All models except Code N } For Code J use 2 extra intake grilles and 2 filter elements 16228	2 2	c c	18959 18960
81	OUTPUT SHAFT. Basic and Code F1, except 100 CD2/6 Code F14 Codes F15, 16, 19, 20 Code F13 100 CD2/6	1 1 1 1	b b b b	18961 18984 18985 19450
82	BEARING CLAMP, fixed by 4 screws 41934, Cap hd M5 x 12	1	c	18964
83	OUTPUT COVER. Basic models only except 100 CD2/6, fixed by 4 screws 43145, Pan hd M6 x 12	1	c	18965
125	EYEBOLT, M12	1	c	43153
128	STAR TOLERANCE RING. Basic and Code F1. Type 0820-030-01, Ray Engineering Ltd.	1	b	43171
130	RING, locating coil. Type Spiralox MS 375, Wellworthy Ltd.	1	c	43172
136	BEARING 6006, Single shield	1	a	61138
137	BEARING 6306, Single shield, Basic and Codes F1, 13	1	a	61134
	BEARING 6306, Single shield, Codes F14 to 20	1	a	61142
149	GREASE, Regent Texaco ULTRATEMP (alternative Chevron SRI 2)	Quantity as required	a	61171
150	COPPASLIP or equivalent MoS <sub>2</sub> anti-scaffing paste, Codes B only.	Quantity as required	a	61701
154	LOCKING SEALANT, Avdelbond A113 (alternative Loctite 221)	Quantity as required	a	61045
215	OUTPUT FLANGE, Code F1, fixed by 4 screws 42863, Cap hd M8 x 30 alternative to Code F1 fixed by 4 screws 41951, Hex hd M6 x 20	1 1	c c	18956 18974
	100 CD2/6, fixed by 4 screws 42855, Cap hd M6 x 16	1	c	18991
216	OUTPUT FLANGE, Code F14 Code F15 Code F16 Code F19 Code F20	1 1 1 1 1	c c c c c	18979 18981 18978 19491 19508
218	OIL SEAL, Spring Lip Nitrile 30 x 40 x 7. Codes F1, F1 alternative and 100 CD2/6 25 x 40 x 7. Codes F14 to 20	1/2 2	a a	61435 61921
226	SEALING COMPOUND, Hermetite Autogel	Quantity as required	a	60992
262	PROTECTION PLUG. Codes F	2	c	61711
263	SEALING PLUG. Codes F14, 15, 16, 19, 20 and copper washer. Codes B	2 2	c c	62239 61694/5
264	VENTILATION PLUG and copper washer (61924), Codes F14 to 20	1	c	62240
266	BLANKING SCREW, Codes F14, 16, 19, 20 (Qty. 8), F15 (Qty. 4), Pan hd M5 x 8	8/4	c	43136
287	OIL FLINGER, Codes F15, 16, 19, 20	1	b	61688
357	BRAKE ADJUSTING SCREW, Codes B. Use with nut M5	4	b	18862
373	BRAKE STATOR, 24 Volt. Code B224. Type RF250, WR52B1P10, 24 Volt 90 Volt. Code B290. Type RF250, WR52B1P7, 90 Volt 24 Volt. Code B324. Type PB300, WR72B4P12, 24 Volt 90 Volt. Code B390. Type PB300, WR72B4P7, 90 Volt	1 1 1 1	c c b b	18005 18006 18989 18990
374	BRAKE REPLACEABLE FACE. Codes B224 and 290. Type RF250, WR52B2P2	1	b	30133
376	BRAKE ARMATURE, Spring drive. Codes B224 and 290. Type RF250, WR52B5P2 Codes B324 and 390. Type PB300, WR72B28P2	1 1	b b	30192/3 30192/4
378	SPRING WASHER, Codes B224 and 290. Emo Wave Washer type EPL53 Codes B324 and 390. Emo Wave Washer type EPL62	1 1	c c	61678 61403
511	INPUT ASSEMBLY, Code K, fixed by 4 screws 41900, Hex hd M10 x 20. Includes bearing 30205, taper roller (61140), bearing 30304 taper roller (61141), shaft (18971), 2 bearing plates (18972), spacer (18973), Nilos ring 30205 JV (61928), Nilos ring 30304 JV (61929), wave washer EPL43 (60823) and 8 screws Pan hd M5 x 10 (41979).	1	c	24064
512	SILICONE SEALANT, Loctite Superflex RTV2 or equivalent	Quantity as required	a	61700

Item No.	Description	Qty	Cat	TASC Unit 100CD Models						
				4/2	4/3	4/4	2/1	2/2 2/6	2/3	2/4
I	FEEDBACK GENERATOR STATOR, fixed by 4 screws 43134, Pan hd M4 x 16	I	c	24018	—	—	24018	24018	—	—
	FEEDBACK GENERATOR STATOR, fixed by 4 screws 42648, C'sk hd M4 x 25	I	c	—	24019	24019	—	—	24019	24019
10	STATOR BACK PLATE	I	c	—	19403	19403	—	—	19403	19403
11	STATOR CLAMP PLATE	I	c	—	19404	19404	—	—	19404	19404
22	COIL	I	b	20421	20419	20422	20421	20421	20419	20422
50	TORQUE TUBE ASSEMBLY fixed by set screw 42929, M5 x 12	I	b	24065	24066	24066	24068	24069	24069	24067
Motors with these Part Numbers are suitable for 220/240—380/420 V, 50 Hz and 240/265—420/460 V, 60 Hz										
156	MOTOR fixed by 4 screws 41900, Hex hd M10 x 20	I	b	61575	61361	62049	61574	61364 *	62040	—
	MOTOR fixed by 4 screws 42860, Cap hd M8 x 16	I	b	—	—	—	—	—	—	62050
	Motor kW/speed			0.75/1450 D80D	1.1/1450 D90D	1.5/1450 D90D	1.1/2850 D80D	1.5/2850 D90D	2.2/2850 D90D	3.0/2850 D100C
155	ADAPTOR, fixed by 4 screws 42868, Cap hd M10 x 16	I	c	—	—	—	—	—	—	18966
76	CASING	1	c	19978	19978	19978	19978	19978	19978	19132

**Differences in certain Components for High Humidity (Code H) and Hoseproofed (Code N)**

Item No.	Description	Qty	Cat	TASC Unit 100CD Models						
				4/2	4/3	4/4	2/1	2/2 2/6	2/3	2/4
22	COIL, Hoseproofed	I	b	20426	20424	20427	20426	20426	20424	20427
83	OUTPUT COVER, Basic models only except 100 CD2/6	I	c	24074	24074	24074	24074	24074	24074	24074
156	MOTOR, IP55. Other details as above	I	b	61580	61577	62054	61579	61581 *	62048	62055
556	HOSEPROOF COVER, L.H. } not required on Code H, replace items 79 and 80 on Code N	I	c	18958	18957	18958	18958	18958	18958	18958
557	HOSEPROOF COVER, R.H.	I	c	18957	18957	18957	18957	18957	18957	18957
577	VEE RING SEAL, Basic models only except 100 CD2/6	I	b	61936	61936	61936	61936	61936	61936	61936

\*Motor Part Numbers refer to Brook Crompton Parkinson motors. Model 100 CD2/6 uses either AEG or Leroy-Somer motors in order to keep overall length to a minimum.

RE-ASSEMBLY Where Locking Sealant 154 is specified, components must first be degreased.

- R1 Input Assembly 511. Slide spacer onto inner end of shaft and fit inner race of bearing. Fit other inner race to opposite end of shaft. Place Nilos Ring 30205 JV and outer race of 30205 bearing against inner bearing cap. Slide in shaft assembly, outer race of 30304 bearing, Nilos Ring 30304JV and wave washer. Tighten down outer bearing cap, treating screws with Locking Sealant 154.
- R2 Fit Motor 156 or Input Assembly 511 to Casing 76. For 100 CD2/4 first fit Adaptor 155 to motor. Treat all screws with Locking Sealant 154.
- R3 Degrease shaft of Motor 156 and treat with Locking Sealant 154. Slide Torque Tube Assembly onto shaft so that  $X=67$  mm. Treat set screw with locking sealant and tighten onto shaft key.
- R4 Press Coil 22 onto Stator 78 so that leads start in line with groove in stator. Fit Coil Locating Ring 130.
- R5 Place Inner Bearing 136, filled with Grease 149, into Stator 78 with shield outwards. Fit Bearing Clamp 82 treating screws with Locking Sealant 154.
- R6 Basic Units and Codes F1, 13. Press Bearing item 137 filled with Grease 149 on to Output Shaft 81 with shield outermost. Fit Feedback Generator Armature 13 to Shaft with Tolerance Ring 128.
- R7 Codes B only. Fit Feedback Generator Armature 13 to Shaft 81 with Key and Set Screws. Fit Brake Armature 376 to Feedback Generator Armature 13 with Screws treated with Locking Sealant 154.
- R8 Codes F14, 15, 16, 19, 20. Fit Feedback Generator Armature 13 to Output Shaft 81 with Set Screws treated with Locking Sealant 154.
- R9 Place Stator 78 with Bearing 136 downwards supporting it on the inner race of the bearing with a ring 31 to 33 mm inside diameter, 40 to 50 mm outside diameter and 12 mm thick. Press Output Shaft 81 into the bearing. Fit Polewheel 77 with two drive pins and screw, treated with Locking Sealant 154.
- R10 Fit Feedback Generator Stator 1 to Stator 78, drawing leads through slot by twisting ends through string loop (see Note D4). For 100 CD4/3, 4/4, 2/3 and 2/4, fit Stator Back Plate 10 and Stator Clamp Plate 11 either side of the feedback generator stator, the extra feedback coil being outside the stator.
- R11 Fit Oil Seal(s) 218 in Output Flange 215 or 216, thoroughly greasing the seal lip(s).
- R12 Codes B224 and 290 only. If the brake rubbing faces are worn, it is possible to fit a new face to the Warner RF250 brake stator, Brake Replaceable Face 374. If this is done, the Brake Armature 376 must be renewed.
- R13 (a) Basic Units only. Fit Output Cover 83. For Codes H and N, fit Vee Ring 577, greasing sealing lip.  
(b) Code F1. Fit Output Flange 215. Seal under heads of fixing screws with Hermetite Autogel 226 and treat screws with Locking Sealant 154.  
(c) Codes F14, 15 and 16 without brake. Fit Bearing 137 into Output Flange 216 and fit flange to Output Shaft 81 and Stator 78. Codes F 15 and 16. Fit Oil Flinger 287.  
(d) Codes F14, 15 and 16 with brake (Codes B). Fit Bearing 137 into Output Flange 216. Fit Spring Washer 378 and Brake Stator 373. Fit Brake Adjusting Screws 357, smeared with Coppaslip 150, and tighten them down. Fit flange to Output Shaft 81 and Stator 78. Codes F15 and 16. Fit Oil Flinger 287.
- R14 Lower complete output assembly into Casing 76, feeding leads through hole adjacent to Terminal Block 75. Reconnect leads. Feedback Generator leads, 1 and 2 ; Coil leads, 3 and 4 ; Brake leads, 5 and 6.

#### SPECIAL NOTES FOR HIGH-HUMIDITY (Code H) and HOSEPROOF (Code N)

- (i) Seal mating faces for Code N with Hermetite Autogel 226.
- (ii) Ensure that plugs are correctly placed. For horizontal mounting, fit only the plug at the flanged end of the Output Flange 216, or in the face of Stator 78.  
For vertical mounting, shaft downwards, fit the plug under Casing 76 nearest the motor, and the plug at the stator end of the output flange.  
For vertical mounting, shaft upwards, fit the plug at the flanged end of the Output Flange 216, or in the face of Stator 78 and the plug at the Output end of the Casing 76. N.B. Do not use Code F1 alternative or 100 CD2/6 vertically mounted, shaft upwards, when fixed to a gearbox without additional shaft sealing.
- (iii) For Code N on Codes F14, 15 and 16 without brake, use screwed Sealing Plugs 263, not the push-in plastic ones.

#### BRAKE ADJUSTMENT

Remove Sealing Plugs 263 from Output Flange 216. Insert 0.4 mm feeler between Brake Stator 373 and Brake Armature 376. Adjust Screws 357 one turn successively until the feeler is rubbing. Check both sides to ensure brake stator is square. Secure adjusting screws with locknuts. If new brake faces have been fitted they will not achieve full braking efficiency for the first few operations. If possible, run in the brake by driving the TASC Unit at normal speed and switching the brake on and off at 15 second intervals at 25% of its rated voltage.

*Should any difficulties arise that are not covered by this publication, please contact the Service Department at the address on the front cover.*