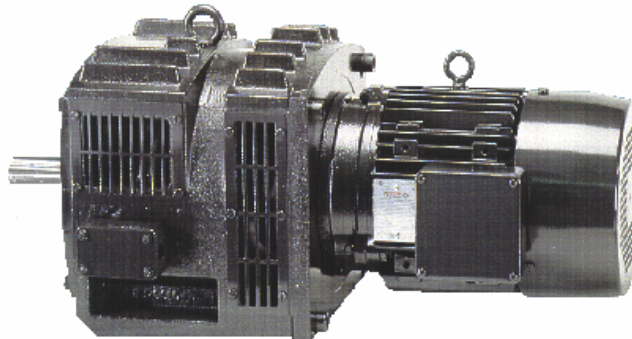


# **TORSPEC™** VARIABLE SPEED DRIVE

## INSTALLATION AND MAINTENANCE INSTRUCTIONS

### TORSPEC MODEL 132TCD-M

#### TORSPEC VARIABLE SPEED DRIVES



**SIMPLE - RUGGED - RELIABLE**

#### **WARNING**

*Disconnect all incoming power before working on this equipment.*

*Follow power lockout procedures.*

*Use extreme caution around electrical equipment.*

*Do not touch the circuit board while power is applied.*

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*Manufacturers & Suppliers of World Class Quality Variable Speed Drives & Controls*

# TORSPEC MODEL 132TCD-M DISMANTLING INSTRUCTIONS

**CAUTION** - BE SURE TO DISCONNECT POWER AND FOLLOW LOCK-OUT PROCEDURES AS SPECIFIED BY LAW **BEFORE** OPENING ANY TERMINAL BOXES OR TOUCHING ANY WIRING.

D1: Open terminal box and disconnect drive wires. **EXTREME CAUTION** should be exercised with the small wires going to the tach generator, as they can be easily broken.

*Hint: (Look for broken wires, or poor connections.)*

D2: Remove four bolts holding output assembly to main casing. Remove output assembly while feeding wires through the hole, once the wires are free, the output assembly can be completely removed.

*Hint: (Look for physical damage, remove any build up of foreign material on polewheel which could cause binding. Binding will cause the drive to run at full speed when the motor is started even if the clutch is turned off.)*

D3: The polewheel is removed by removing the bolt in the center that is attaching it to the output shaft and inserting a larger 12mm bolt to push it off.

D4: The coil is held in place by a circlip at the back and silicone sealant at the front. After removing the circlip it is necessary to use a thin blade to break the sealant between the coil form and the front of the output assembly. **Care must be used, the former is breakable.**

*Hint: (Look for physical damage, signs of overheating, coil should be 20 to 40 ohms depending on size. Low resistance will cause the control fuses to blow, too high will result in poor performance.)*

D5: To separate the coil and tach wires cut the waxed string and **carefully** slide the rubber tube off. If the tach is being replaced, a string or small wire tied to the old tach wires before removing can be used to assist in pulling in the new wires.

*Hint: (Look for broken wires, tach should be 220 ohms, a bad tach will cause the drive to run at full speed when the controller is energized.)*

D6: Remove the tach cover plate and tach stator. The tach armature is held in place by a friction fit star tolerance ring and can be pulled off. **Be sure not to damage the magnetic strip.**

*Hint: (Look for broken magnetic strip, this will give the same symptoms as a bad tach.)*

D7: Remove the shaft out of the assembly from the output shaft side by pressing on the polewheel side of the shaft.

D8: The rear bearing that is still in the housing and the front bearing still on the shaft can be removed after the retaining clips have been taken off.

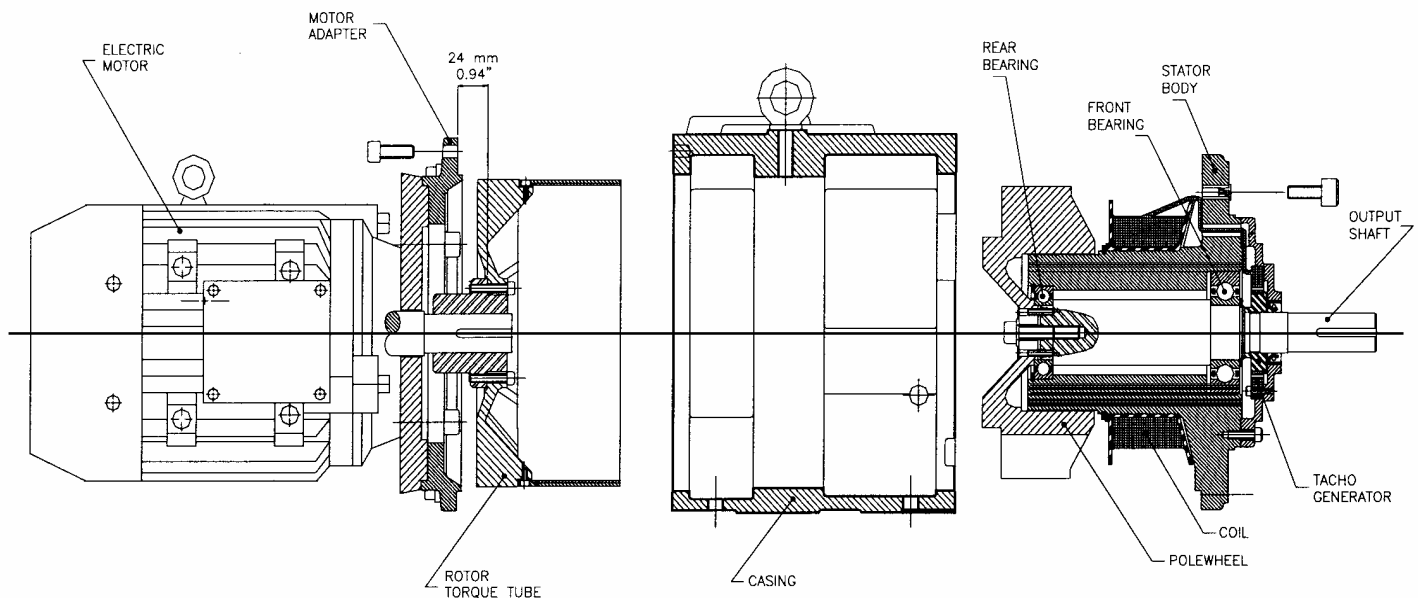
D9: Remove the motor adapter flange from the main casing. Remove the 4 cap head screws holding the torque tube assembly to the hub on the motor shaft. Two grub screws hold the hub on the shaft, be sure to remove these grub screws completely as one is counter sunk into the shaft.

*Hint: (Look for pitting and/or lifting of the copper lining on the torque tube, this is what transmits the power and damage here will cause the drive to be short of power)*

# TORSPEC MODEL 132TCD-M ASSEMBLY INSTRUCTIONS

## USE A THREAD LOCKING COMPOUND ON ALL BOLTS

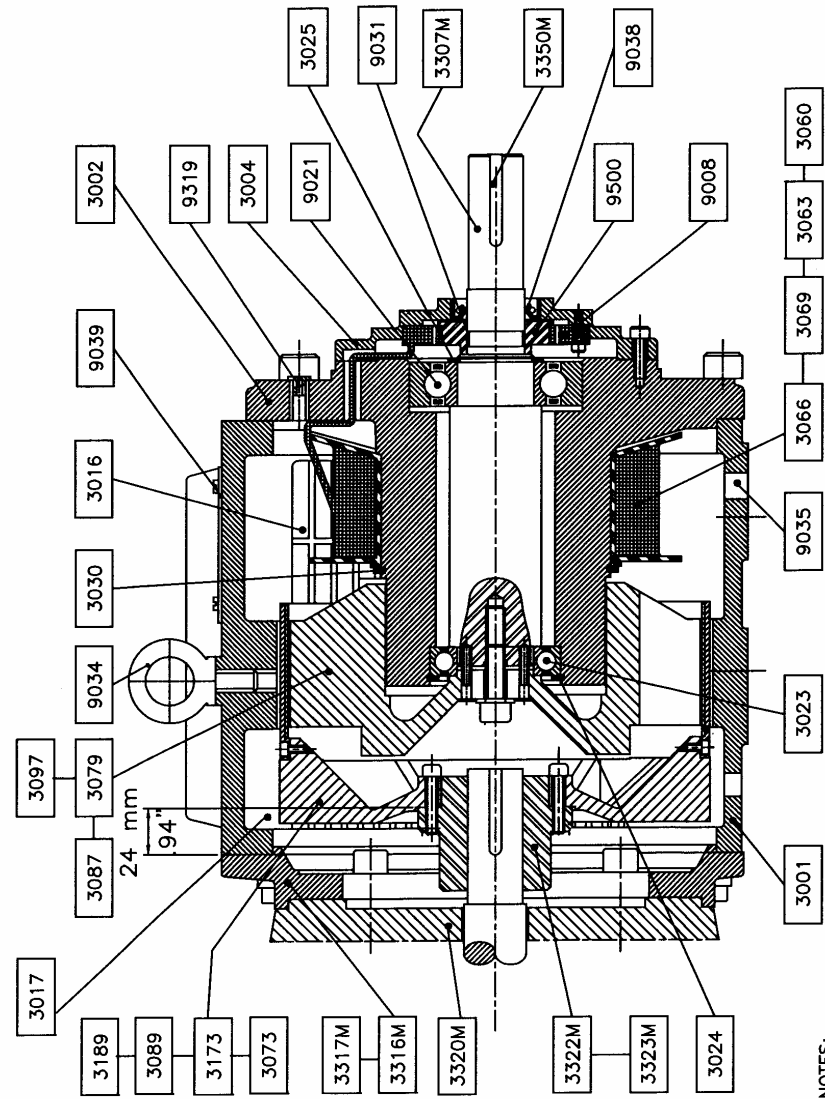
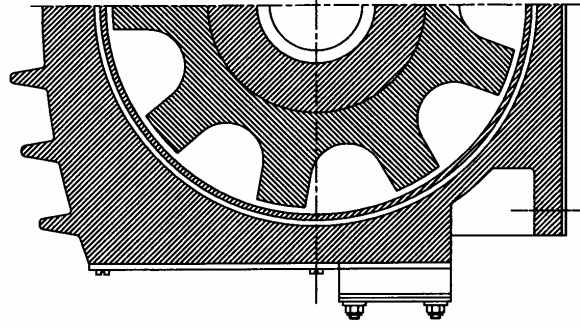
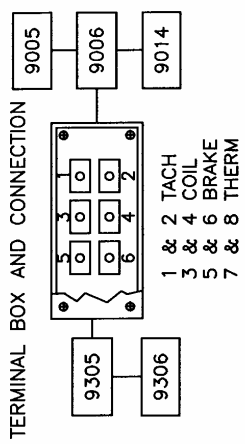
- A1: If the motor is being replaced it will be necessary to dimple the shaft in the same location as the original motor. ***This location is critical for proper alignment.*** Use an anti-seize compound on the shaft. Mount the torque tube hub with one of the grub screws in the dimple
- A2: Mount the motor adapter flange onto the motor flange with the flat on the bottom. Mount the torque tube onto the hub. Bolt the motor assembly onto the main casing.
- A3: Mount the pre-greased rear bearing into the output assembly by pressing on the outer and inner race with a press, ***do not hammer.*** Insert rear bearing circlip into stator body to retain bearing. Press the front bearing on to the shaft with the press. Mount the front bearing circlip on to the shaft. Insert the shaft assembly into the outer assembly from the front side by pressing on the inner and outer front bearings while supporting the rear bearing
- A4: Mount the star tolerance ring and tach armature onto the shaft. Feed the tach wires through the hole in the output assembly and slide the tach stator plate over the shaft and bolt to the output assembly. ***Be sure not to pinch the tach wires.***
- A5: Apply silicone rubber to the front of the main coil and push the coil onto the output assembly. Install the coil circlip. Push the tach wires, then the coil wires into the rubber sleeving. Tie off with a piece of waxed string.
- A6: Bolt the polewheel onto the shaft ensuring the spring pins are in place and the polewheel completely seats.
- A7: Insert the output assembly into the casing while feeding the wires through the hole. Bolt into place on main casing.



# TORSPEC MODEL 132TCD-M PARTS LIST

PART NO.	DESCRIPTION
<b>3307M</b>	OUTPUT SHAFT D100/D112 28MM CODE S1
<b>3314M</b>	OUTPUT FLANGE D100/D112 FIXED BY 6-M10X50 SOCKET HD CAP CODE F1
<b>3316M</b>	MOTOR ADAPTER D100/D112 FIXED BY 8-M8X30 SOCKET HD. CAP CODE D1
<b>3317M</b>	MOTOR ADAPTER D132C FIXED BY 8-M8X30 SOCKET HD. CAP CODE D1
<b>3320M</b>	METRIC MOTOR SEE MOTOR NAMEPLATE FOR DETAILS FIXED BY D100/D112/D132C 4-M12X25 HEX. HD. CAP
<b>3322M</b>	ROTOR HUB D100/D112 28MM FIXED BY 1-M6X10 CUP POINT GRUB SCREW, 1-M6X10 CONE POINT GRUB SCREW CODE D1
<b>3323M</b>	ROTOR HUB D132 38MM FIXED BY 1-M6X10 CUP POINT GRUB SCREW, 1-M6X10 CONE POINT GRUB SCREW CODE D1
<b>3325M</b>	INPUT ASSY. METRIC CODE K1
<b>3350M</b>	KEYSTOCK METRIC D100 8X7X40
<b>3001</b>	CASING
<b>3002</b>	STATOR BODY ASSY. FIXED BY 4-M10X35 SOCKET HD. CAP
<b>3004</b>	TACH GENERATOR HOUSING FIXED BY 6-M6X20 SOCKET HD. CAP
<b>3016</b>	GRILLES LEFT HAND FIXED BY 7-M5X8 PAN HD. SLOTTED
<b>3017</b>	GRILLES RIGHT HAND FIXED BY 7-M5X8 PAN HD. SLOTTED
<b>3023</b>	BEARING REAR 60082Z
<b>3024</b>	BEARING REAR CIRCLIP
<b>3025</b>	BEARING FRONT CIRCLIP
<b>3030</b>	COIL RETAINING RING
<b>3060</b>	STD. COIL FOR 4/4KW, 2/7.5KW FIXED BY PART NO. 3030
<b>3063</b>	STD. COIL FOR 4/2.2KW, 4/3KW, 2/4KW, 2/5.5KW FIXED BY PART NO. 3030
<b>3066</b>	HP COIL FOR 4/4KW, 2/7.5KW FIXED BY PART NO. 3030 CODE H10, H20, N1, N2
<b>3069</b>	HP COIL FOR 4/2.2KW, 4/3KW, 2/4KW, 2/5.5KW FIXED BY PART NO. 3030 CODE H10, H20, N1, N2
<b>3073</b>	TORQUE TUBE/ ROTOR ASSY. 4 POLE FIXED BY 4-M6X30 SOCKET HD. CAP
<b>3079</b>	POLEWHEEL STD. FIXED BY 1-M10X35 SOCKET HD. CAP, 1-M10 FLAT WASHER, 2-M5X20 SLOTTED SPRING PINS
<b>3087</b>	POLEWHEEL REDUCED FIXED BY 1-M10X35 SOCKET HD. CAP, 1-M10 FLAT WASHER, 2-M5X20 SLOTTED SPRING PINS CODE R
<b>3089</b>	TORQUE TUBE/ROTOR ASSY. 2 POLE FIXED BY 4-M6X30 SOCKET HD. CAP
<b>3097K</b>	POLEWHEEL REDUCED C/W AXIAL BLADES – FIXED SAME AS 3079
<b>3173</b>	TORQUE TUBE NICKEL PLATED/ROTOR ASSY 4 POLE FIXED BY 4-M6X30 SOCKET HD. CAP SAME AS 3073
<b>3189</b>	TORQUE TUBE NICKEL PLATED/ ROTOR ASSY 2 POLE FIXED BY 4-M6X30 SOCKET HD. CAP SAME AS 3089
<b>3302</b>	TOTALLY ENCLOSED COVER LEFT HAND FIXED BY 4-M5X16 SOCKET HD. CAP AND FLATWASHER CODES T1, T2
<b>3303</b>	TOTALLY ENCLOSED COVER RIGHT HAND FIXED BY 4-M5X16 SOCKET HD. CAP AND FLATWASHER CODES T1, T2
<b>3501</b>	HOSEPROOF COVER LEFT HAND FIXED BY 4-M5X16 SOCKET HD. CAP AND FLATWASHER CODES N1, N2
<b>3503</b>	HOSEPROOF COVER RIGHT HAND FIXED BY 4-M5X16 SOCKET HD. CAP FLATWASHER CODES N1, N2
<b>9005</b>	TERMINAL BOX FIXED BY 4-M5X60 STUD, 4-M5 RUBBER WASHERS, 4-M5 FLAT WASHERS, 4-M5 LOCKNUT
<b>9006</b>	TERMINAL BOX LID X 2
<b>9008</b>	TACH GENERATOR ASSY. FIXED BY 4-M4X16 SOCKET HD. CAP, 4-M4 FLAT WASHERS
<b>9014</b>	TERMINAL BOX GASKET, X3 FOR CODES H10, H20, N1, N2, T1, T2
<b>9021</b>	BEARING FRONT 63082Z
<b>9031</b>	STAR TOLERANCE RING
<b>9034</b>	EYEBOLT M12
<b>9035</b>	PLASTIC PLUG 2 - # 12 CODES T1, T2
<b>9038</b>	OIL SEAL 30X47X7 DOUBLE LIP
<b>9039</b>	NAMEPLATE FIXED BY M6X 3.5 TAPPING SCREWS
<b>9305</b>	TERMINAL BLOCK 4 WAY FIXED BY 1-M5X16 SOCKET HD. CAP
<b>9306</b>	TERMINAL BLOCK 6 WAY FIXED BY 1-M5X16 SOCKET HD. CAP CODES B? Y?
<b>9319</b>	PLASTIC PLUGS 6 - #7 CODES T1, H10, N1
<b>9500</b>	TACH ARMATURE FIXED BY PART NO. 9031

# TORSPEC MODEL 132TCD-M PARTS DIAGRAM



NOTES:  
 NOT SHOWN:  
 3501, O3 DEBRIS COVERS  
 3325M INPUT ASSEMBLY  
 33314M OUTPUT FLANGE  
 3302, O3 TOTALLY ENCLOSED COVERS

<b>TORSPEC</b> INTERNATIONAL INC.	132TCD CLUTCH UNIT — METRIC	File: Instr...132/132assyM March/02 R# 1
	BASIC UNIT — FOOT MOUNTED	

## DRIVE FEET MOUNTING PROCEDURES

F1: Push slotted Shims under the Coupling lowest mounting feet and moderately tighten the Bolts

F2: Align the unit. Insert Feeler Gauges under the remaining feet during the alignment process to level the unit.

F3: Replace feeler gauges with equal thickness of slotted Shims. Use a few thick shims rather than a large number of thin shims.

F4: Alternately tighten Bolts.

F5: Recheck alignment and change shims as required.

F6: Push slotted Shims under AC Motor mounting feet and moderately tighten the bolts.

Note:

*-The decision to mount (bolt) the Motor feet should be based on the application dynamics. (I.e. vibration/support). It is not always necessary to mount the motor feet and is specifically motor size related.*

*-When Drives are purchased on base, base must also be leveled and secured.*

**Warning:**

***Failure to properly mount and level drive unit may result in distortion to the drive housing, torque tube, mechanical failure, misalignment, and premature bearing wear.***

### V-BELT DRIVE

- Sheaves should be installed on the shaft before mounting the unit.
- Do not pound sheaves on shaft as you may damage drive bearings.
- Align sheaves carefully to avoid axial thrust on drive bearings.
- The sheave on drive shaft should be positioned as close as possible toward the drive bearing.
- Sheaves and belts should be in accordance to METRIC Spec. IEC or ISO Standards.
- When adjusting belt tension, make sure the drive (clutch) is secured by all mounting bolts before tightening belts.
- Adjust belt tension to belt manufacturer recommendations. Excessive tension will decrease bearing life.