Northstar
RIM Tach 8500

9 Steps to Installation
End-of-Shaft Style Wheel

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Mill Duty – High Performance & Rugged

- Most Reliable magneto-resistive digital tach on the market today
- Ductile Iron Housing & Stainless Steel Sensor Modules
- Bearingless design
- Replaceable sensors "on the run" & no gap adjustments.

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Styles of Wheels

- RIM TACH 8500's have 4 different wheel choices.
- Each wheel has it's own installation method to ensure proper alignment with the sensor
- Each has a specific bore range.

"J Wheel" or Spoke Wheel	"K Wheel" or Clamp Wheel	Set Screw Wheel	End of Shaft Wheel
			1.125", 2.125", 2.375" & 2.875" ID
0.675" - 1.25" ID	1.375" – 3.250" ID	3.256" – 4.50" ID	

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Important Installation Notes & Cautions!

- Pulse wheels are precision machined and magnetized. Care should be taken when handling. If the wheel comes with a protective band on it, do not remove until ready to install it.

  ⚠️ Caution must be used when handling the pulse wheel assembly. The surface of the pulse wheel outer rim is sensitive to scratches and impacts. The magnetic properties of the pulse wheel material can also be distorted or erased by exposure to strong magnetic fields.

- The RIM TACH 8500 sensors (either single or dual) are the last components to be installed. The cavity which they are installed is used to gain access to the wheel for positioning. Install sensor modules in very last step.

- If you are replacing on old unit or just the sensor module, use the new hardware that is packaged with the new Sensor. Some older designs had thicker flanges which utilized longer hardware. These longer fasteners used with the thinner flange will "bottom out" and not secure the sensor module properly.

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Step 1
Unpacking

- Inspect shipping container and unpack parts.

- Verify all components, accessories and manual were received.

- Become familiar with instruction manual, various parts and any warnings or cautions.

- Review Figure 4 of instruction manual to review parts breakdown.

Step 2
Inspection

- Rim Tach 8500 is designed to be mounted on a 8.5 inch dia. 180 NEMA C-face flange.

- Inspect C-face, motor face and shaft for damage or paint. Remove paint, dirt and other debris.

- Apply a thin coat of corrosion inhibitor or oil to motor face and shaft.

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Step 3
Insert mounting Studs

- Insert (4) ½-12 plated mounting studs into the motor frame.
- Torque to a nominal 60 Ft-lbs.

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Step 4
End-of-Shaft Wheel Installation (Parts 1-2)

Typical Type C Face Motor

Accessory Mounting Face

End of Shaft

Pulse Wheel Assembly

Drawing Not To Scale

1.125 in. dia. End-of-Shaft = (1) 3/8-16 Bolt
2.125 in. dia. End-of-Shaft = (2) #10-24 Bolts
2.375 in. dia. End-of-Shaft = (2) 3/8-16 Bolts
2.875 in. dia. End-of-Shaft = (2) 3/8-16 Bolts

Install one spacer washer in Pulse Wheel Shaft Recess. The larger spacer is for 2.X inch shafts, while the smaller spacer is for the 1.125 inch shaft.
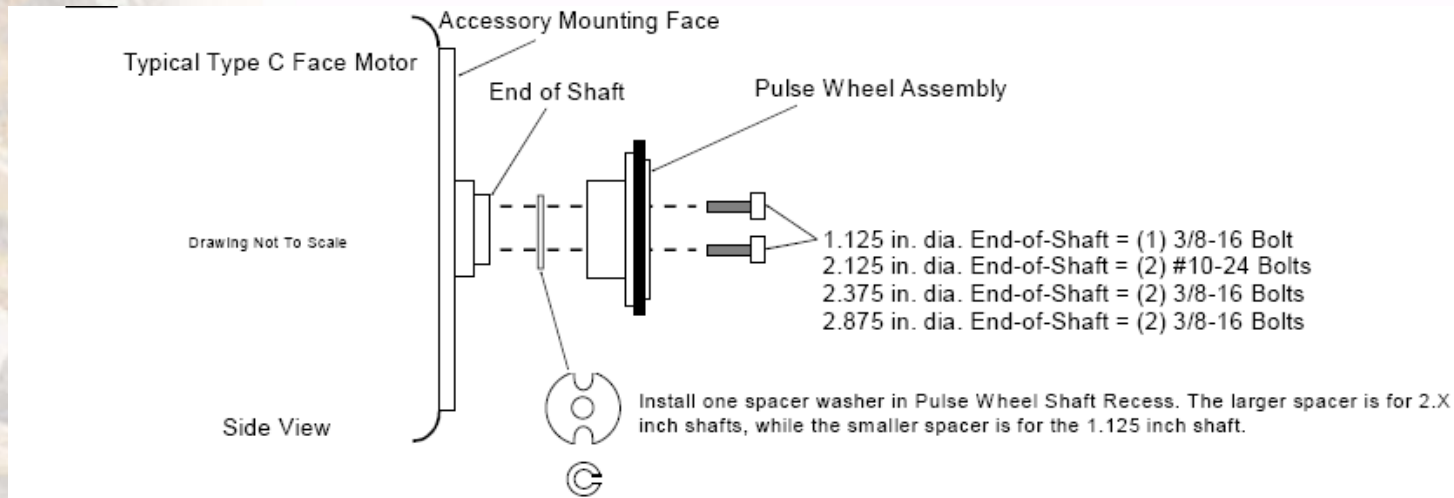
Side View

Figure 12: Pulse Wheel Assembly

- **Referring to Fig. 12 above of the instruction manual**
- The End-of-shaft design consists of three parts,
  - 1) Pulse Wheel, 2) Spacer, 3) Mounting hardware (either 1 or 2 bolts)
- The End of Shaft pulse wheel is designed to use a spacer washer for standard motor shaft lengths of 0.400 +/-0.010 inch. If the motor shaft is a different length, please refer to the instruction manual section titled "Non Standard End-Of-Shaft Mounting Procedure" for axial adjustment procedure.

Step 4
Part 1 of End-of-Shaft Installation

- Place washer and pulse wheel assembly onto shaft and tap lightly until it seats.
- Rotate the wheel so that the mounting bolt holes line up with the shaft tapped holes.
- Insert mounting bolts into the wheel. (E01 pulse wheels for 1.125" shafts require only one 3/8-16 bolt.)

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Step 4
Part 2 of End-of-Shaft Installation

- Tighten each bolt to the proper torque: 15 foot-pounds for 10-24 bolts, and 30 foot-pounds for 3/8-16 bolts.

- The pulse wheel should be seated flat against motor shaft. The wheel should not appear to wobble if the motor shaft is turned by hand. Excessive wobble (0.020' TIR) indicates a bad installation.
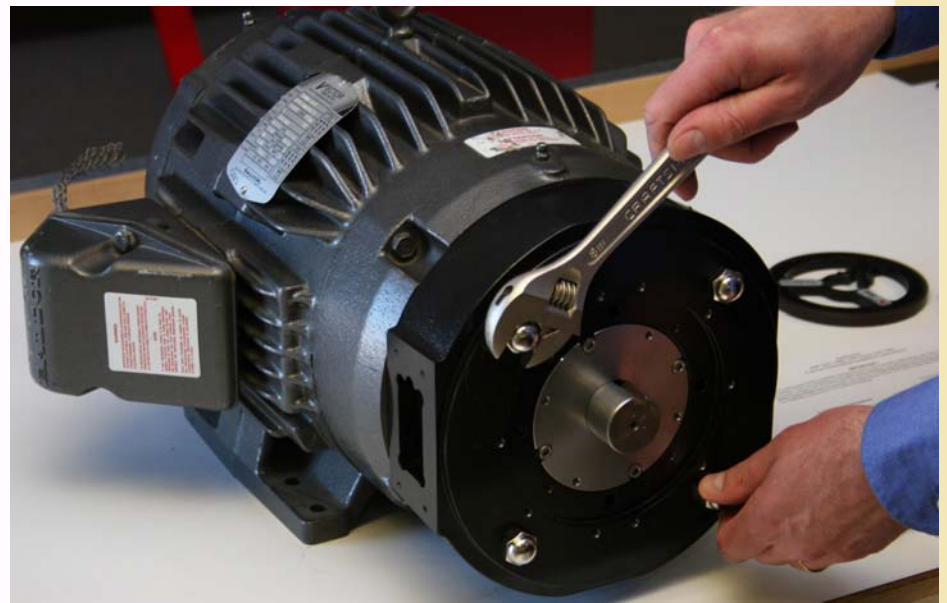
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Step 5
Position RIM 8500 housing

- Determine which of two orientations of the RIM 8500 housing is best for your application.

- Sensors Horizontal or Vertical

- Ensure that the condensation drain for that position is located at the bottom of housing. If not, rotate housing 180 degrees.

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Step 6
Install RIM 8500 housing

- Place the RIM 8500 housing on the (4) ½-12 mounting studs and slide to motor face. Tap lightly with hand or rubber hammer to seat housing on C-face.

- Insert (4) 1/2-13 acorn cap nuts onto mounting studs. Tighten nuts in an alternating star pattern. Torque to 50 Ft-lbs.

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Step 7
Secure end of shaft cover

- Once wheel is securely tightened on the shaft, position the end of shaft cover on the housing and secure using the (4) 10-32 UNC screws.
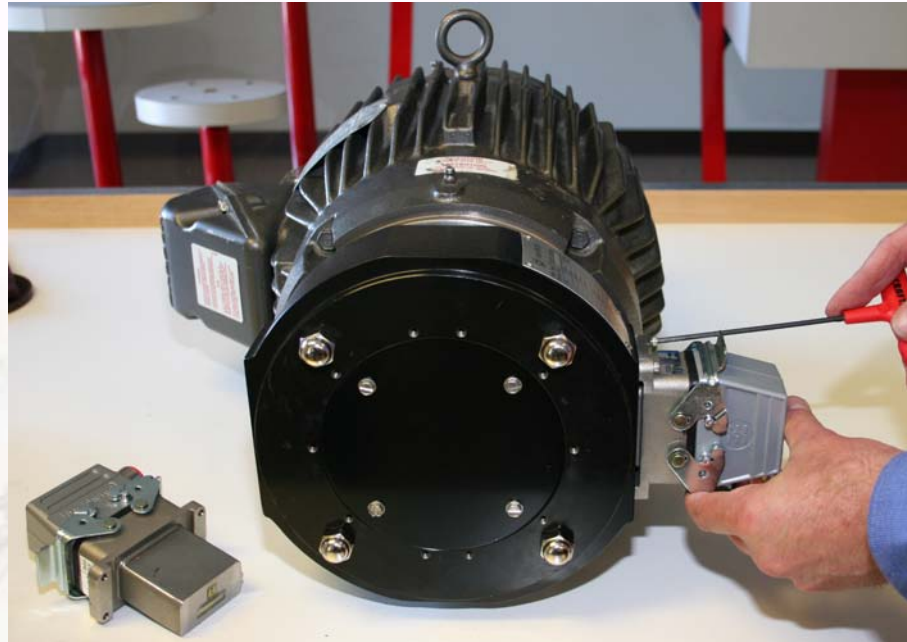
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Step 8
Wire Sensor Module

- After wiring the signal cable to the connector hood, install the connector hood on the sensor module.
- Snap the connector latches in place to secure.

Step 9
Install Sensor Module

- Insert sensor module/s into the housing. The sensor and housing are keyed to ensure proper orientation and installation of the sensor.

- Locate four socket head cap screws that came with the hardware kit. Insert them through the clearance holes in sensor module and into the tapped holes in housing. Tighten to a nominal 5 In-lbs.

- The RIM Tach 8500 allows up to 2 sensor modules. The RIM Tach 8500 Quad allows up to 4 sensor modules.

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Complete RIM Tach 8500

•**Other training modules available**
   •RIM Tach 8500 "K Wheel"
   •RIM Tach 8500 "J Wheel"
   •RIM Tach "Shaft Grounding Brush"

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