Installation and Maintenance Instructions
ATRA-FLEX® Millennium®

Tools Required: Standard mechanics tools, straight edge and feeler gauge, dial indicator or laser alignment tool (whichever is preferred).

For Technical Support Please Contact ATR Sales Inc.
1800-443-6613
ATR Sales Inc. Corporate Office / Factory
110 E. Garry Ave.
Santa Ana, Ca 92707
www.atra-flex.com
1. MOUNTING OF NON SPACER, SPACER AND FLYWHEEL COUPLINGS
   A. MAKE SURE THAT THE PRIME MOVER STARTING SWITCH IS LOCKED OUT.
   B. CLEAN SHAFTS.
   C. PLACE THE RING ON ONE OF THE SHAFTS BEFORE MOUNTING THE SECOND HUB, OR IF INSTALLING FLYWHEEL HUB OR SPACER FLANGE PLACE RING ON STANDARD HUB SIDE.
   D. MOUNT HUBS ON SHAFTS SO THAT THE DISTANCE BETWEEN THE TEETH IS EQUAL TO THE "E" DIMENSION SHOWN ON TABLE 1 FOR A-SERIES OR TABLE 2 FOR MILLENNIUM: (TOLERANCES - RADIAL, AXIAL, and ANGULAR). DO NOT PRELOAD THE HUBS WHEN THE INSERT IS INSTALLED.

   NOTE: ON SPACER COUPLING APPLICATIONS, THE STANDARD HUB IS INSTALLED SO THAT THE END OF SHAFT IS PERPENDICULAR WITH THE END OF THE WINGS ON THE HUB. THE SPACER FLANGE IS INSTALLED WITH THE FACE OF THE FLANGE FLUSH TO SHAFT END.

   E. IF HUBS ARE TO BE INSTALLED INTERFERENCE FIT, HEAT ACCORDING TO INSTRUCTIONS BELOW.
   F. WHEN THE MOUNTING OF THE HUBS IS COMPLETE TIGHTEN THE SETSCREWS.

2. SETTING THE "E" DIMENSION AND THE ANGULAR ALIGNMENT
   A. USE A BAR IN EQUAL OR LESSER THICKNESS TO THE "E" DIMENSION SHOWN ON TABLE 1 FOR A-SERIES OR TABLE 2 FOR MILLENIUM.
   B. INSERT THE BAR THE DEPTH OF THE TEETH, AND AT 90 DEGREE INCREMENTS (WHEN POSSIBLE), MEASURE WITH A FEELER GAUGE OR CALIPERS THE "E" DIMENSION.
   C. THE DIFFERENCE BETWEEN THE MINIMUM AND THE MAXIMUM MEASUREMENTS MUST NOT EXCEED THE ANGULAR TOLERANCE.

3. SETTING THE RADIAL ALIGNMENT
   A. WITH A STRAIGHT EDGE APPLIED ACROSS THE TEETH OF BOTH HUBS, THE STRAIGHT EDGE MUST REST SQUARELY OR WITHIN THE RADIAL TOLERANCES ON TABLE 1 FOR A-SERIES OR TABLE 2 FOR MILLENNIUM. THIS PROCESS SHOULD BE DONE AT 90-DEGREE INTERVALS.
   B. THE USE OF A DIAL INDICATOR OR LASER ALIGNMENT TOOL WILL ALLOW FOR CLOSER TOLERANCES IN ALIGNMENT.
   C. TIGHTEN THE MOUNTING BOLTS AND PERFORM SECTIONS 2 AND 3 AGAIN TO MAKE SURE THAT THE ALIGNMENT HAS NOT CHANGED. IF THE ALIGNMENT IS WITHIN THE TOLERANCES OF TABLE 1 FOR A-SERIES OR TABLE 2 FOR MILLENNIUM PROCEED TO THE NEXT STEP. IF THE TOLERANCES ARE NOT THEN REALIGN THE HUBS.

4. INSTALL THE INSERT
   (SEE PAGES 5-8 FOR ILLUSTRATION ON T-SLOT & VHS)

6. INSTALLATION OF JACKSHAFTS
A. FOLLOW ALL STEPS PRECEDING WITH THE FLOATER HUB AND FLOATER RINGS INSTALLED ON THE OUTPUT DRIVER AND THE DRIVEN SIDE OF APPLICATION.
B. MAKE SURE YOU HAVE ALLOWED FOR THE "E" DIMENSION WHEN THE CENTER SHAFT IS LIFTED INTO PLACE.
C. LIFT AND SUPPORT CENTER SECTION SHAFT AT BOTH ENDS. POSITION IN ALIGNMENT WITH DRIVER AND DRIVEN SHAFT HUBS.
D. INSTALL INSERTS.
E. CHECK "E" DIMENSIONS AT BOTH ENDS.
F. MOVE FLOATER RINGS INTO POSITION AND BOLT ONTO FLOATER HUBS, OR IF SNAP RING DESIGN -INSTALL SNAP RINGS.
G. REMOVE CENTER SECTION SUPPORTS SLOWLY.
H. REPLACE ALL GUARDING.

7. INSTALLATION OF END- FLOAT LIMITING COUPLINGS
A. FIND MAGNETIC CENTER ON YOUR MOTOR AND MARK SHAFT.
B. MOUNT COUPLING HUBS ONTO SHAFTS SO THAT THE "E" DIMENSION WILL BE CORRECT WHEN THE MOTOR IS IN ITS MAGNETIC CENTER OR CENTER OF ITS TOTAL AXIAL TRAVEL WHEN MOUNTED IN PLACE. PLACE RING OVER ONE HUB ON EITHER SIDE OF APPLICATION
C. ALIGN COUPLING PER INSTALLATION SECTION #3
D. CHECK "E" DIMENSION
E. INSTALL INSERT INTO COUPLING
F. INSTALL RING OVER INSERT
G. CHECK THAT MOTOR SHAFT IS IN ITS CENTER OF AXIAL TRAVEL (MARK ON SHAFT)
H. REPLACE ALL GUARDING BEFORE START-UP

8. INSTALLATION OF HORIZONTAL SHEAR / SLIDE COUPLINGS
A. ADJUST THE DBSE ACCORDING TO THE MINIMUM OR MAXIMUM THE COUPLING IS DESIGNED FOR.
B. SET SHAFTS IN THE POSITION OF TRAVEL IN OR OUT OR COMBINATION OF BOTH.
C. MARK SHAFT FOR NON FLANGE HUB POSITION
D. INSTALL NON FLANGED HUB ONTO SHAFT
E. INSTALL FLANGED HUB ONTO SHAFT FLUSH WITH END OF SHAFT
F. INSTALL RING, INSERT AND WINGED PLATE INTO NON FLANGED HUB, OR IF SPACER TYPE COUPLING ASSEMBLE SPACER UNIT WITH RING, INSERT AND BOTH WINGED PLATES, BOLT TO THE FLANGE HUBS (ONE ON EACH END OF SHAFTS)
G. PLACE FLANGED HUB EQUIPMENT IN POSITION AND BOLT FLANGE HUB TO WINGED PLATE
H. ALIGN COUPLING PER INSTALLATION SECTION # 3
I. CHECK "E" DIMENSION AND OVERALL TRAVEL OF COUPLING
J. REPLACE ALL GUARDING BEFORE START-UP

NOTE: INTERFERENCE FIT HUBS SHOULD BE HEATED IN AN OIL BATH OR OVEN TO A MAXIMUM OF 275 DEGREES FAHRENHEIT. THE FLASHPOINT OF THE OIL MUST BE 350 DEGREES FAHRENHEIT OR HIGHER

PER OSHA ALL ROTATIONAL EQUIPMENT MUST BE ENCLOSED WITH A GUARD. BEFORE START UP MAKE CERTAIN THAT GUARD IS IN PLACE. IF RING WALKS IN EITHER DIRECTION IMMEDIATELY SHUT UNIT OFF AND REFER TO TABLES 1 OR 2 AND FOLLOW STEPS 2 THRU 5 AGAIN.
RECOMMENDED MAINTENANCE

ALL COUPLINGS SHOULD BE INSPECTED AT ROUTINE SHUT DOWNS OR EVERY SIX TO TWELVE MONTHS (OR 4500 TO 9000 HOURS) DEPENDING ON THE DUTY OF THE APPLICATION.


EXAMPLE

M5 = 5 X .05 = .250

UP TO ¼” DEEP INDENTS WOULD BE PERMITTED BEFORE INSERT REPLACEMENT IS NEEDED ON AN M-5 COUPLING

THE ALIGNMENT AND GAP (E DIMENSION) OF THE TWO COUPLING HALVES SHOULD BE RECHECKED, AND ADJUSTED IF NEEDED. THE INSERT & RING CAN THEN BE INSTALLED.

Table 1: A-Series® Tolerances – Radial, Axial, and Angular

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Table 2: Millennium® Tolerances – Radial, Axial, and Angular

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ALIGN RING PINS WITH INSERT VHS SLOTS

MAKE SURE RING IS ABOVE TOP HUB WHEN INSTALLING HUBS ON SHAFTS

WRAP INSERT WITH VHS SLOTS OPEN ON TOP

ATRA-FLEX VHS INSERTS FOR VERTICAL APPLICATIONS
SLIDE RING DOWN THE INSERT UNTIL RING PINS BOTTOM OUT ON VHS SLOTS
RING PINS BOTTOMED OUT IN VHS SLOTS