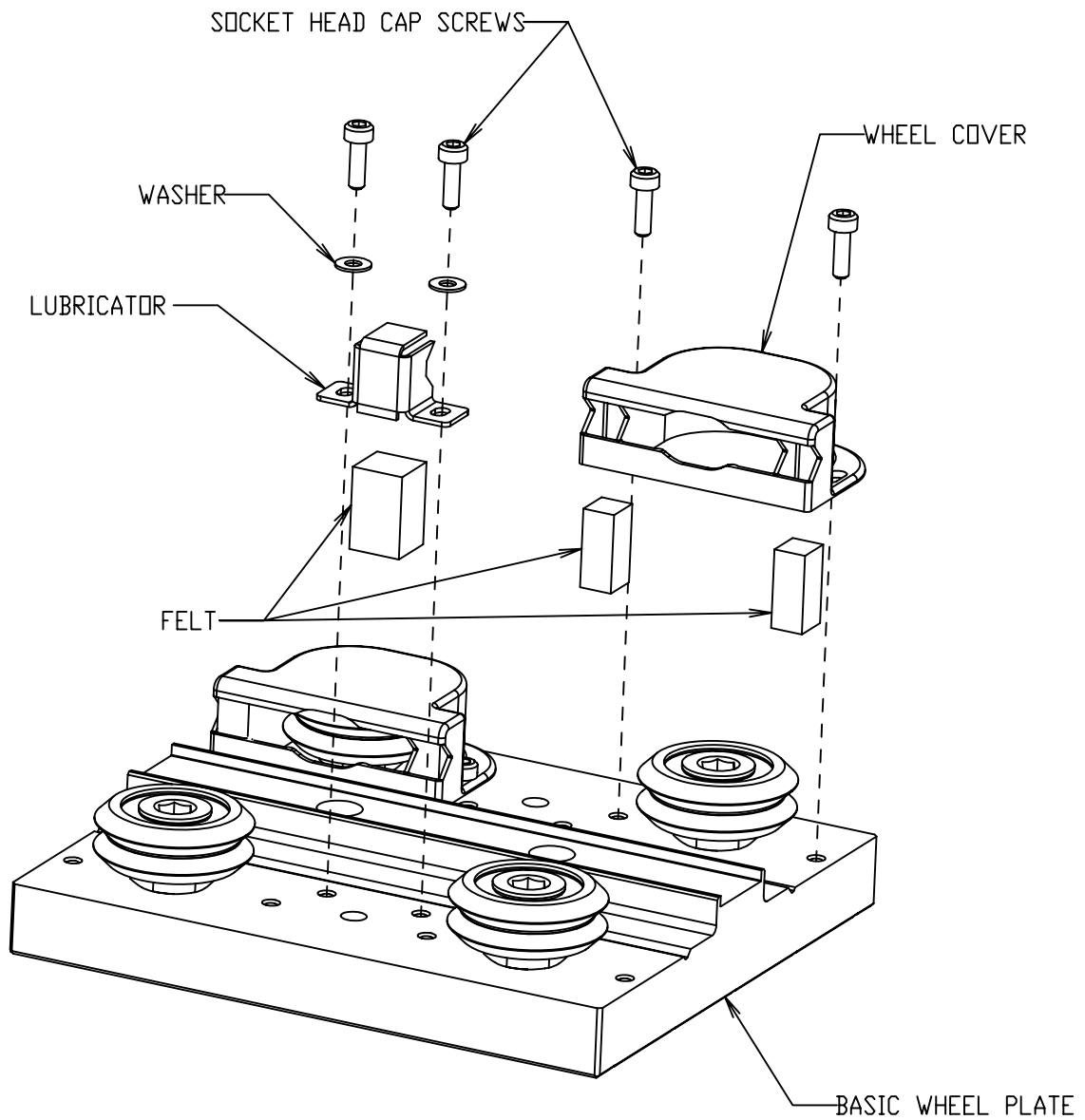


LoPro ASSEMBLY-BASIC WHEEL PLATE

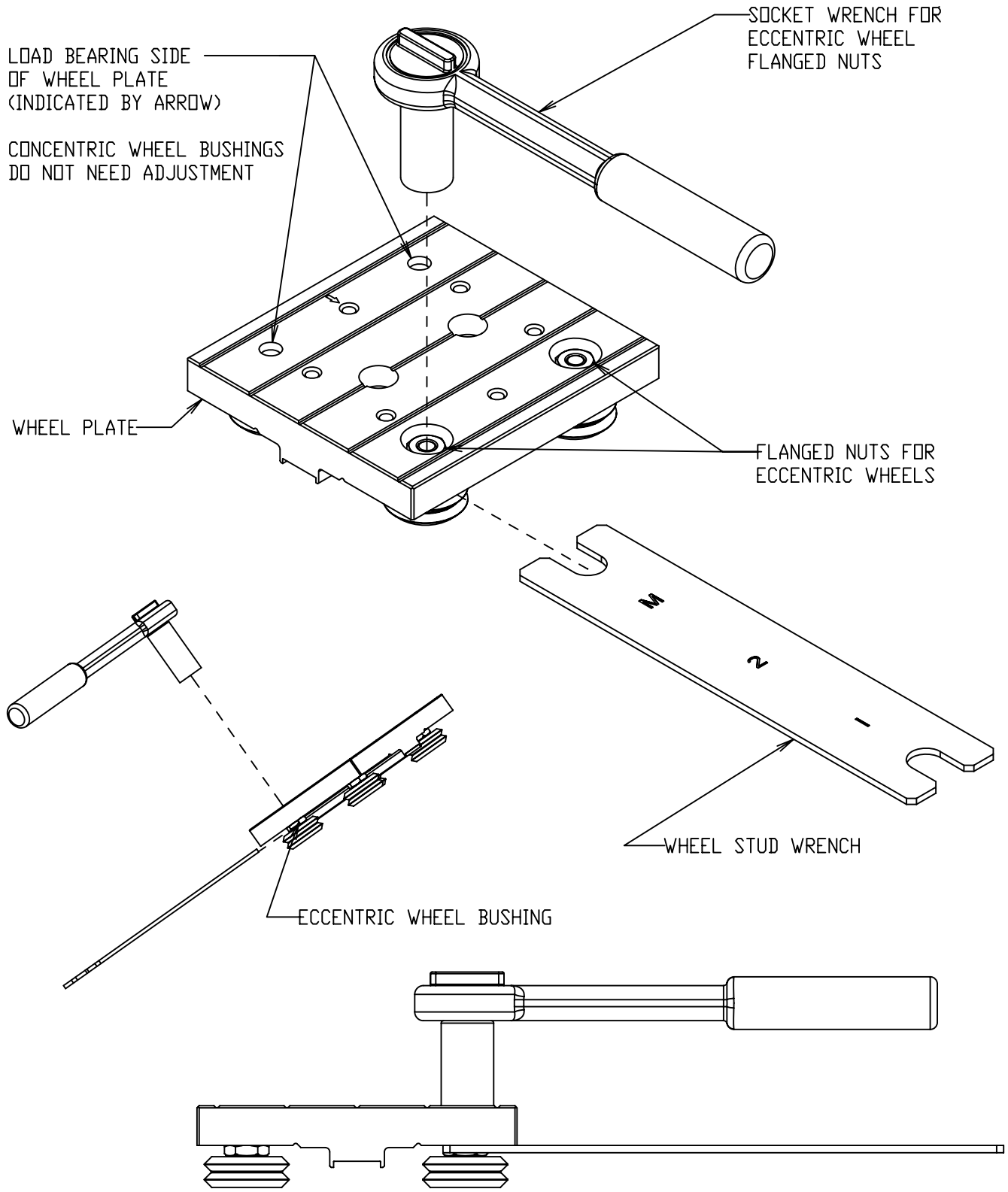
LoPRO® BASIC WHEEL PLATE MAINTENANCE

EXPLODED VIEW OF LUBRICATOR / WHEEL COVER ASSEMBLIES



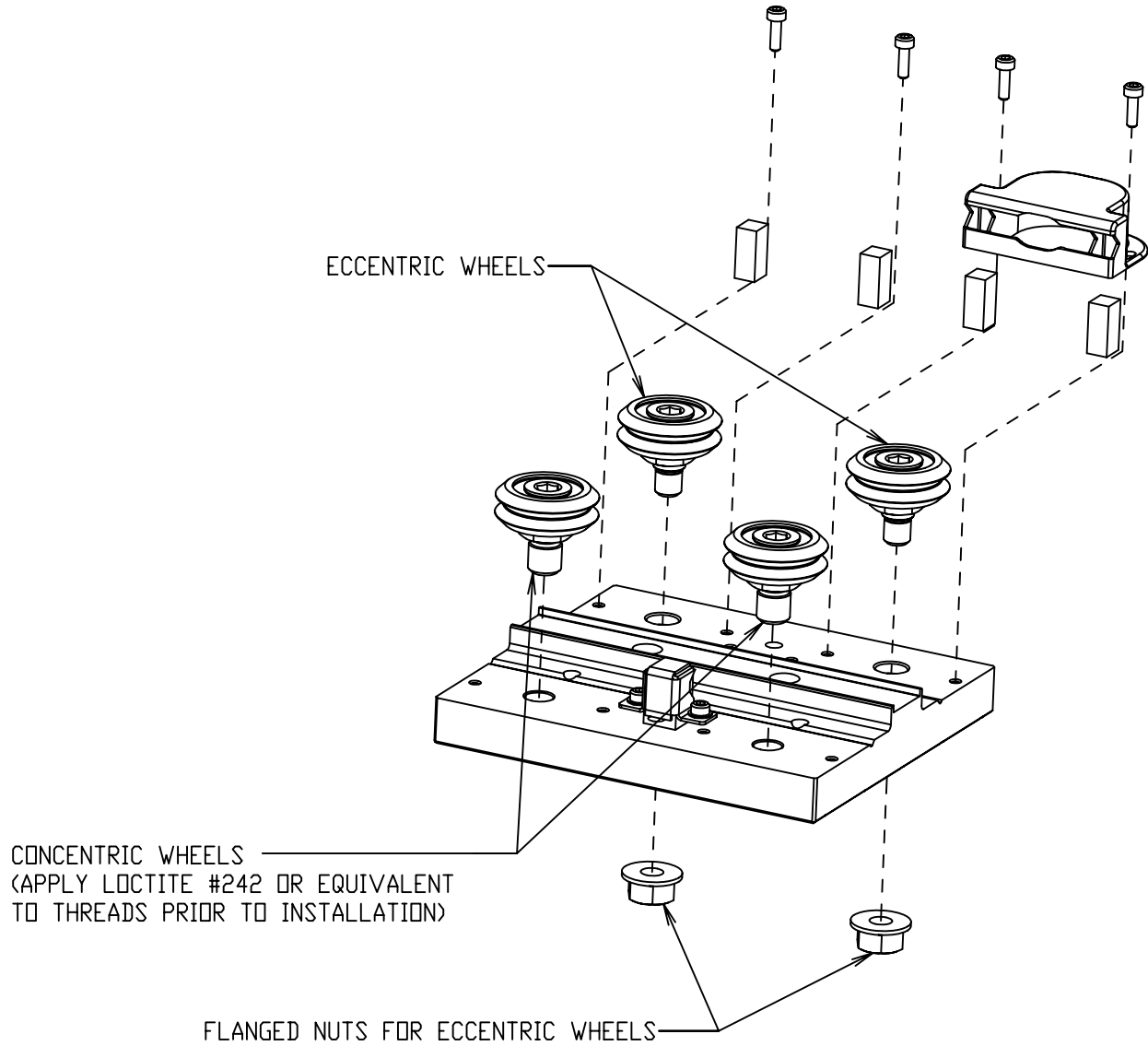
LoPRO® BASIC WHEEL PLATE MAINTENANCE

ECCENTRIC BUSHING ADJUSTMENT



LoPro® BASIC WHEEL PLATE MAINTENANCE

EXPLODED VIEW OF WHEEL PLATE SHOWING WHEEL REPLACEMENT



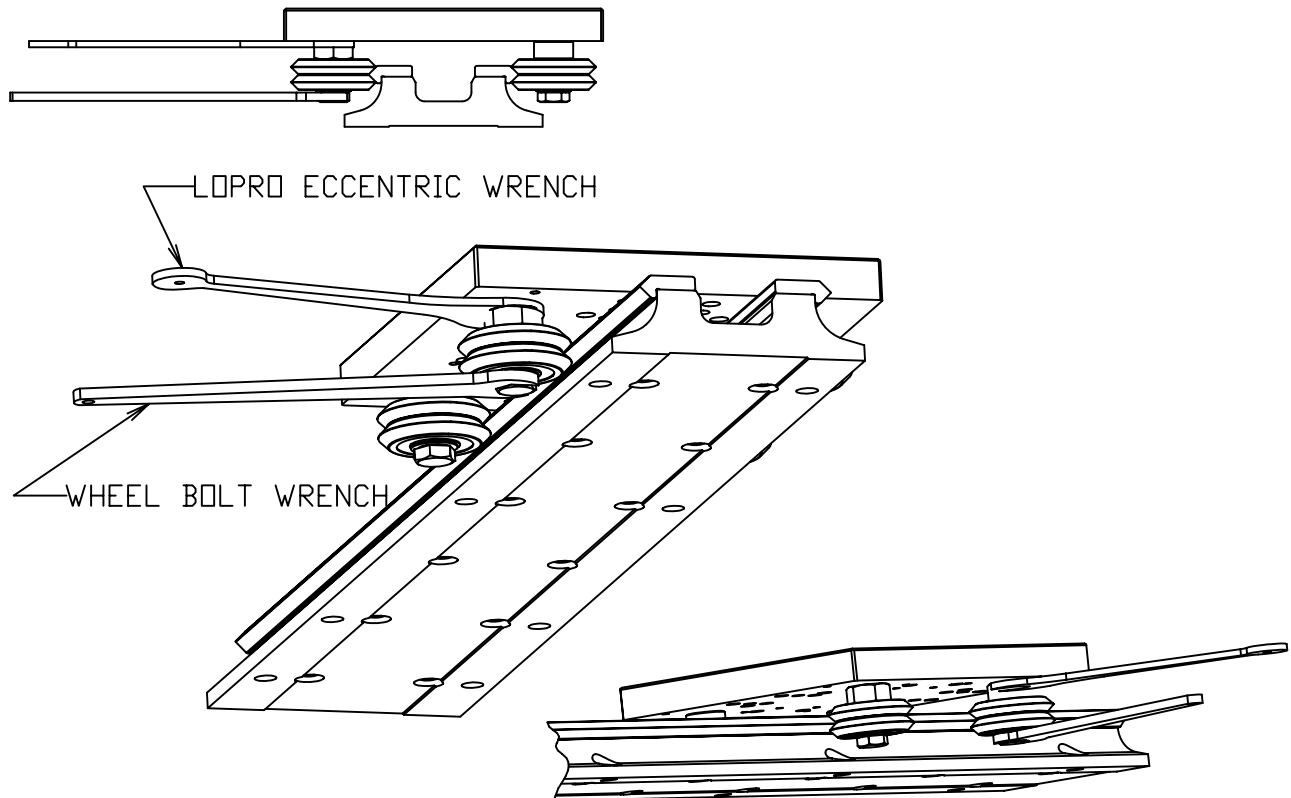
LoPro® DUAL VEE® WHEEL FIT-UP

TO OBTAIN THE BEST PERFORMANCE FROM A Bishop-Wisecarver LoPro LINEAR MOTION SYSTEM, CARE SHOULD BE TAKEN TO ENSURE THE WHEEL PLATE IS CORRECTLY ADJUSTED.

ADJUSTMENT OF PRELOAD FOR GUIDE WHEELS WITH BUSHINGS:

THE GUIDE WHEELS ARE FASTENED TO THE WHEEL PLATE WITH SPECIAL MOUNTING BOLTS. THESE BOLTS PASS THROUGH SHOULDERED BUSHINGS THAT ARE INSERTED INTO THE GUIDE WHEEL. THERE ARE TWO TYPES OF BUSHINGS; THE FIXED OR CONCENTRIC, AND THE ADJUSTABLE OR ECCENTRIC. THE ECCENTRIC BUSHING HAS HEXAGONAL WRENCH FLATS.

1. CHECK CONCENTRIC GUIDE WHEEL MOUNTING BOLTS FOR TIGHTNESS.
2. LOOSEN THE ECCENTRIC GUIDE WHEEL MOUNTING BOLT JUST ENOUGH TO ALLOW ROTATION OF THE ECCENTRIC BUSHING. MAKE THE FOLLOWING ADJUSTMENTS IN SMALL INCREMENTS.
3. PLACE THE LoPro ECCENTRIC WRENCH ON THE ECCENTRIC BUSHING AND ROTATE THE HANDLE AWAY FROM THE CENTER OF THE WHEEL PLATE TO A POINT WHERE THE GUIDE WHEELS CONTACT THE TRACK.
4. HOLD THE GUIDE WHEEL FIRMLY BETWEEN YOUR FINGERS AND MOVE THE WHEEL PLATE ALONG THE TRACK. AT THE SAME TIME, ROTATE THE BUSHING TO A POINT WHERE THE GUIDE WHEEL DOES NOT SKID ON THE TRACK. TIGHTEN THE WHEELBOLT SNUGLY SO THAT THIS TEMPORARY ADJUSTMENT WILL HOLD.
5. REPEAT THIS PROCEDURE ON THE SECOND ECCENTRIC GUIDE WHEEL.
6. A PROPER ADJUSTMENT IS ACHIEVED BY REPEATING STEPS 4 AND 5 UNTIL A UNIFORM RESISTANCE TO MOTION IS ATTAINED BY "FEEL" ALONG THE ENTIRE TRACK.
7. FULLY TIGHTEN THE ECCENTRIC WHEEL BOLTS TO FIX BOTH ADJUSTMENTS. NOTE THAT BOTH ECCENTRIC WHEELS NEED TO BE ADJUSTED PRIOR TO PERFORMING THIS FINAL TIGHTENING SO AS TO AVOID BINDING OF THE CARRIAGE.
8. APPLY WICKING THREAD LOCKER TO WHEEL BOLT THREADS FROM TOP OF WHEEL PLATE. USE LOCTITE 290 OR EQUIVALENT.



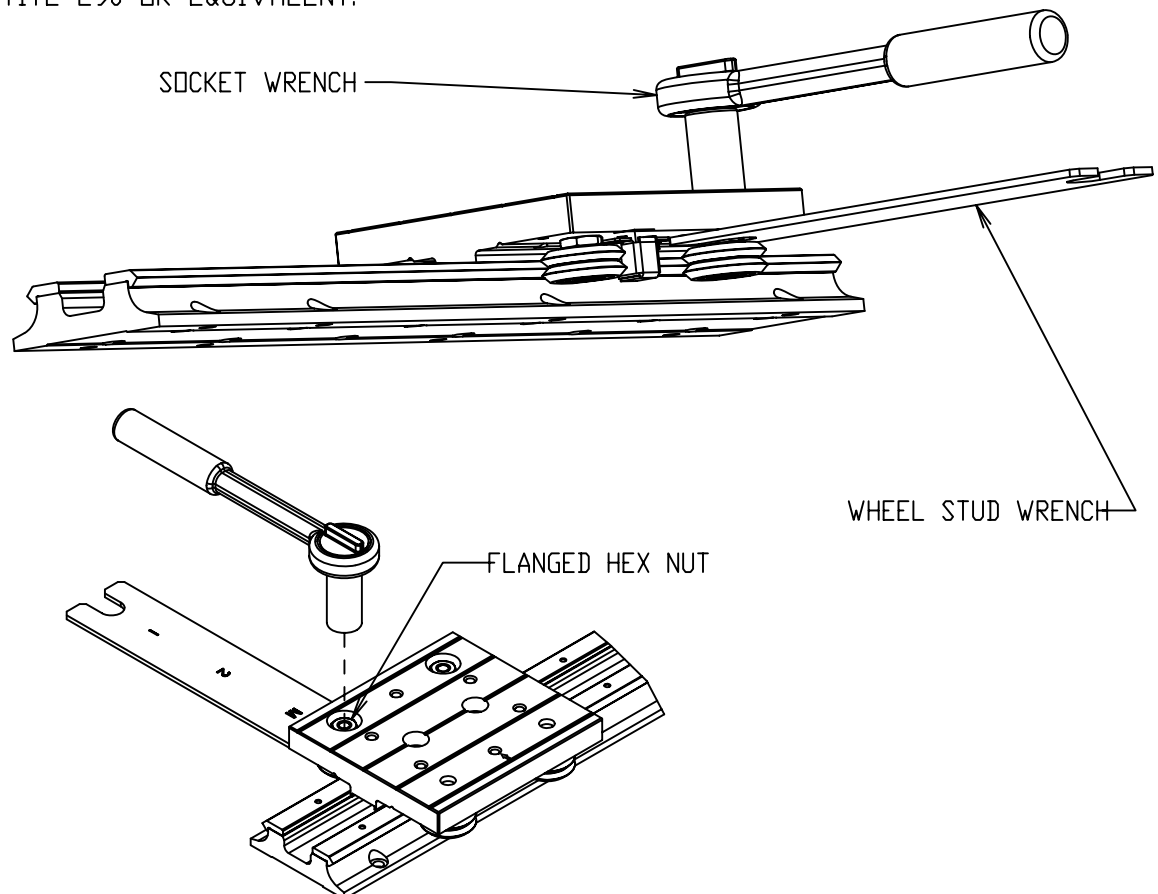
LoPro® DUAL VEE® WHEEL FIT-UP

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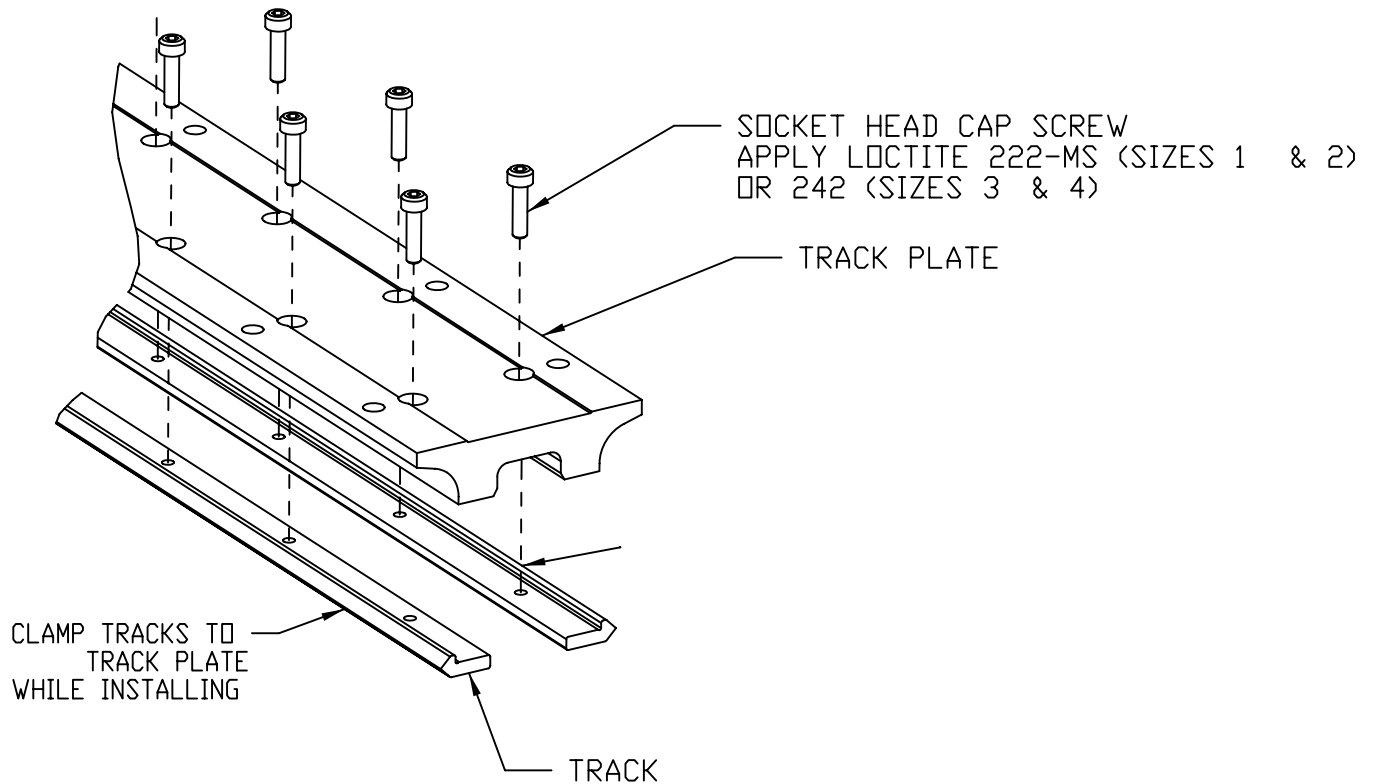
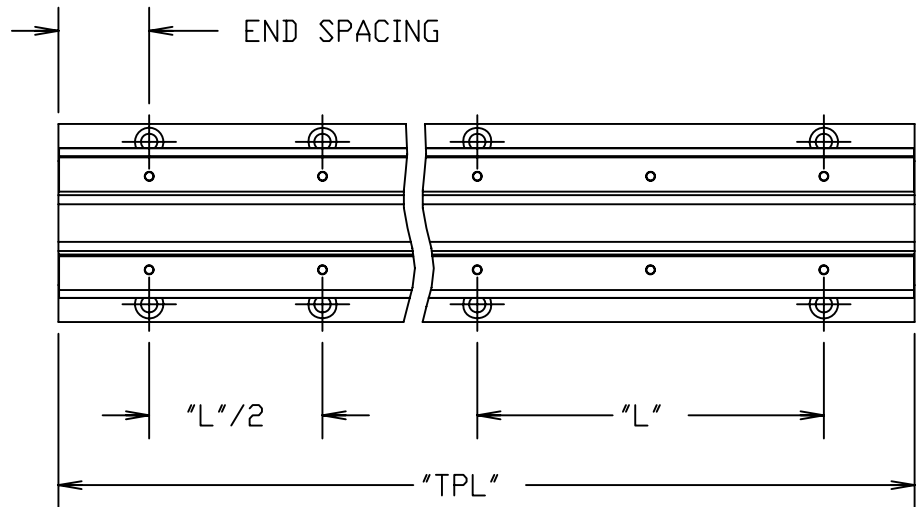
ADJUSTMENT OF PRELOAD FOR STUDDED GUIDE WHEELS:

THE GUIDE WHEELS HAVE INTEGRATED STUDS AND WRENCH FLATS ON THEIR INNER RACES. THE CONCENTRIC GUIDE WHEELS ATTACH DIRECTLY TO TAPPED HOLES ON THE WHEEL PLATE. THE ECCENTRIC GUIDE WHEEL STUDS PASS THROUGH CLEARANCE HOLES ON THE WHEEL PLATE AND ARE HELD TO THE WHEEL PLATE BY FLANGED HEX NUTS ON THE WHEEL PLATE'S TOP SIDE.

1. CHECK CONCENTRIC GUIDE WHEEL MOUNTING BOLTS FOR TIGHTNESS.
2. USE A SOCKET WRENCH TO LOOSEN THE ECCENTRIC GUIDE WHEEL'S FLANGED HEX NUT JUST ENOUGH TO ALLOW ROTATION OF THE ECCENTRIC WHEEL'S WRENCH FLAT. MAKE THE FOLLOWING ADJUSTMENTS IN SMALL INCREMENTS.
3. PLACE THE WHEEL STUD WRENCH ON THE ECCENTRIC WHEEL'S WRENCH FLAT AND ROTATE THE HANDLE AWAY FROM THE CENTER OF THE WHEEL PLATE TO A POINT WHERE THE GUIDE WHEELS CONTACT THE TRACK.
4. HOLD THE GUIDE WHEEL FIRMLY BETWEEN YOUR FINGERS AND MOVE THE WHEEL PLATE ALONG THE TRACK. AT THE SAME TIME, ROTATE THE BUSHING TO A POINT WHERE THE GUIDE WHEEL DOES NOT SKID ON THE TRACK. TIGHTEN THE FLANGED HEX NUT SNUGLY SO THAT THIS TEMPORARY ADJUSTMENT WILL HOLD.
5. REPEAT THIS PROCEDURE ON THE SECOND ECCENTRIC GUIDE WHEEL.
6. A PROPER ADJUSTMENT IS ACHIEVED BY REPEATING STEPS 4 AND 5 UNTIL A UNIFORM RESISTANCE TO MOTION IS ATTAINED BY "FEEL" ALONG THE ENTIRE TRACK.
7. FULLY TIGHTEN THE ECCENTRIC WHEEL BOLTS TO FIX BOTH ADJUSTMENTS. NOTE THAT BOTH ECCENTRIC WHEELS NEED TO BE ADJUSTED PRIOR TO PERFORMING THIS FINAL TIGHTENING SO AS TO AVOID BINDING OF THE CARRIAGE.
8. APPLY WICKING THREAD LOCKER TO WHEEL BOLT THREADS FROM TOP OF WHEEL PLATE. USE LOCTITE 290 OR EQUIVALENT.



LoPro® TRACK PLATE MAINTENANCE



TO DETERMINE HALF HOLE AND END SPACES:

TPL = TRACK PLATE LENGTH
 L = TRACK PLATE MOUNTING HOLE SPACING

$[(TPL \times 2) / L] - .36$ = INTEGER NUMBER AND DECIMAL VALUE
 INTEGER NUMBER / 2 = NUMBER OF SPACES
 A VALUE WITH .5 REPRESENTS A HALF HOLE
 $[(DECIMAL VALUE + .36) \times L / 2] / 2$ = END SPACES