

THOR-50M Drawing Revisions

August 2016

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|--------|-------------------------|------|---|--|---|
| 2 | 472-0000 Sht. 1 of 3 | G | Mechanical Assembly, Thor-50M | REVISED PARTS 472-7000-1 & 472-7000-1 - REMOVED MOLDED FOOT AND ADDED MOLDED SHOE; SHEET 3 OF 3 - BALLOON #6 WAS #7; QTY. OF ITEM 14 - SA572-S129 AND ITEM 15 - SA572-S113 WAS 1; ADDED PART #SA572-S126 - Ø1.0 ACHILLES LOAD CELL AND PART #SA572-S114 - ROTARY POTENTIOMETER | Added Molded Shoe; ACHILLES LOAD CELL, SA572-S126 and ROTARY POTENTIOMETER, SA572-S114, where missing from drawing (Sheet 3 of 3) |
| 3 | 472-0000 Sht. 2 of 3 | G | Ground Strap Locations | | |
| 4 | 472-0000 Sht. 3 of 3 | G | Sensor/Load Cell Locations | | |
| 22 | 472-1200 | D | Accelerometer Mounting Plate Assembly, Head | REMOVED ANGULAR RATE SENSOR SA572-S55 FROM ARS LIST | ARS (800 K) not used |
| 30 | 472-2000 | D | Mechanical Assembly, Neck | Removed Note 2; Revised Part #472-2200 - MOUNTING PLATFORM ASSEMBLY, NECK | Note 2 states, "FOUR M6 X 1 X 16 SCHS WITH NYLON PELLET ARE USED TO FASTEN THE LOWER NECK LOAD CELL TO THE UPPER THORACIC SPINE NECK PITCH CHANGE MECHANISM", these screws are called out on drawing 472-000 Sht. 1 of 3; On 472-2231 - FLEXION-EXTENSION STOP PLATE, NECK, subassembly of 472-2200, moved the "F" and "R" stamps to the top of the plate so they will be visible when installed |
| 31 | 472-2100 | B | Cable Assembly, Neck | ITEM #1 PART #472-2110 DESCRIPTION WAS FRONT STOP ASSEMBLY, NECK; ITEM #13 PART #472-2107 DESCRIPTION WAS CENTER CABLE WASHER, NECK; ADDED ITEM #17 AND NOTE #2 | Change center cable washer to Flanged Bushing to help alleviate cable noise |
| 32 | 472-2110 | D | Assembly, Neck | TITLE WAS FRONT STOP ASSEMBLY, NECK | Title change to better suit part |
| 45 | 472-2140 | C | Center Cable Assembly, Neck | DIMENSION (13) WAS 13; REMOVED 10 DIMENSION; ADDED 316 STAINLESS TO MATERIAL; IN NOTE 1 3400 N WAS 1000 LBS. | Ball Swage dimensions where made Reference so the industry standard tolerance could apply; Added 316 Stainless Steel to material because there was no material called out; Changed Tensile load from 1000 LBS. to 2000 N note #1 because 1000 LBS is the threaded swage failure load and 2000 N covers the working load seen in testing. |
| 46 | 472-2130 | D | Rear Cable Assembly, Neck | DIMENSION (13) WAS 13; IN NOTE 1 3400 N WAS 1700 LBS.; ADDED 316 STAINLEASS STEEL TO MATERIAL | Ball Swage dimensions where made Reference so the industry standard tolerance could apply; Added 316 Stainless Steel to material because there was no material called out; Changed Tensile load from 1700 LBS. to 3400 N note #1 because 1700 LBS is beyond the threaded swage failure load and 1700 N covers the working load seen in testing. |
| 47 | 472-2150 | D | Front Cable Assembly, Neck | DIMENSION 344.3 WAS 331.3, (13) WAS 13; REMOVED 10 DIMENSION IN DETAIL Y; ADDED THREAD NOTE IN DETAIL Z; ADDED 316 STAINLESS TO MATERIAL; IN NOTE1 3400 N WAS 1700LBS. | Lengthened cable for better fit in the neck, the shorter cable caused the slight compression of the front neck spring when installed; Ball Swage dimensions where made Reference so the industry standard tolerance could apply; Added 316 Stainless Steel to material because there was no material called out; Changed Tensile load from 1700 LBS. to 3400 N note #1 because 1700 LBS is beyond the threaded swage failure load and 1700 N covers the working load seen in testing. |
| 54 | 472-2107 | | Center Cable Lower Bushing 1, Neck | N/A | NEW DRAWING |

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| 56 | 472-2108 | | Center Cable Lower Bushing 2, Neck | N/A | NEW DRAWING |
| 63 | 472-2200 | C | Mounting Platform Assembly, Neck | REVISED PART #472-2230 - OC STOP ASSEMBLY | On 472-2231 - FLEXION-EXTENSION STOP PLATE, NECK, subassembly of 472-2230, moved the "F" and "R" stamps to the top of the plate so they will be visible when installed |
| 66 | 472-2230 | B | OC Stop Assembly | REVISED PART #472-2231 | On 472-2231 - FLEXION-EXTENSION STOP PLATE, NECK moved the "F" and "R" stamps to the top of the plate so they will be visible when installed |
| 67 | 472-2231 | B | Flexion-Extension Stop Plate, Neck | MOVED "F" AND "R" STAMPS TO THE TOP OF THE PLATE | Moved stamps so they would be visible when installed |
| 94 | 472-3600 | E | Spine Mechanical Assembly | REMOVED PART #50011090 - SCREW, FHCS M8-1.25 x 12; PART #5001092V - SCREW, FHCS M8-1.25 x 14 WAS #5001091 - SCREW, FHCS M8-1.25 x 16, RENUMBERED PARTS LIST | Used the same length screw, 14mm LG., to attach the LOWER THORACIC SPINE ASSEMBLY (472-3650) to the LUMBAR SPINE PITCH CHANGER ASSEMBLY (472-3670). Previously use two different screw lengths, 12mm LG. & 16mm LG. |
| 103 | 472-3621 | E | Upper Thoracic Spine Side Plate, Right | ADDED HOLE NOTE 2X M4x0.7 6H THRU | Holes where not labeled |
| 104 | 472-3622 | E | Upper Thoracic Spine Side Plate, Left | ADDED HOLE NOTE 2X M4x0.7 6H THRU | Holes where not labeled |
| 147 | SA572-S44 | B | Tilt Sensor, Dual Axis | ADDED NONLINEARITY TO TILT SENSOR SPECIFICATIONS AND REFERANCE PLANE TO FRONT VIEW | Added more specifications to better control tilt sensor |
| 237 | 472-3400 | D | Thorax Bib Assembly | ITEM 7 - 5000103 - SCREW, BHCS M4-0.7 X 8 WAS 5001163 - M4 X 0.7 x 5 LG. BHCS | |
| 312 | 472-4761 | B | Rear Attachment Plate | DIMENSION 31.8 WAS 31.75 | To match hole pattern in PELVIS/LUMBAR MOUNTING BLOCK ASSEMBLY (472-3760), so telebanking would not cause interference |
| 317 | 472-4763-1 | B | Lower Abdomen Top/Side/Rear Pattern | COMPLETE REDESIGN | Bag redesigned to better fit abdomen foams and make the manufacturing more repeatable |
| 318 | 472-4763-2 | B | Lower Abdomen Bag Top Pocket Pattern | COMPLETE REDESIGN | |
| 319 | 472-4763-3 | B | Lower Abdomen Bag Top Pocket Pattern | DIEMENSION (367) WAS (362), 234 WAS 235, 7 WAS 13 TYP. FOR ALL TABS, 50 WAS 53, 57 WAS 51, 33 WAS 25, 28 WAS 24, 41 WAS 39, 4 WAS 6, 25 WAS 27, 111 WAS105, 132 WAS 130, & 144 WAS 143; ADDED DIMENSIONS 240 AND 58 | |
| 320 | 472-4763-4 | C | Lower Abdomen Front Pattern | COMPLETE REDESIGN; DIMENSION 248 WAS 254, 57 WAS 61, 7 WAS 13 TYP. FOR ALL TABS, 79 WAS 84, 157 WAS 161, (19) WAS (14), 71 WAS 66, 51 WAS 44, 27 WAS 25, 112° WAS 26°, & 105° WAS 93°; ADDED DIMENSIONS 271, 100, 70, 7, 52, & 10 | |
| 322 | 472-4763-6 | B | Lower Abdomen Stiffening Cloth | DIMENSION 237 WAS 251, 52 WAS 59, (39) WAS (28), (35°) WAS (36°), 127 WAS 125, 55 WAS 63, 3 WAS 2, 39 WAS 28, & 102 WAS 100 | |
| 323 | 472-4763-7 | B | Lower Abdomen Outside Velcro Patch | DIMENSION 237 WAS 251, 52 WAS 59,(39) WAS (28), (81) WAS (94), 127 WAS 125, 55 WAS 63, 3 WAS 2, 39 WAS 28, & 102 WAS 100 | |
| 326 | 472-4000 | E | Pelvis Assembly | ADDED ITEMS, 41 - 9002655 - WIRE CLAMP, NYLON 1/8 DIA, 42 - 5001111V - WASHER, SPRING LOCK M3, 43 - 9009248V - NUT, HEX M3-0.5 | Added for strain relief of pelvis accelerometer cables |
| 333 | 472-4380-2 | D | Right Iliac Assembly | REVISED ITEM #1 PART #472-4381 AND ADDED DETAIL A | New H-PT. TOOL BEAR to accommodate the new H-Point Tool design |
| 334 | 472-4381 | B | Pelvis H-Pt. Tool Bearing | COMPLETE REDESIGN, CHANGED FROM RECTANGULAR THRU HOLE TO TAPERED THRU HOLE | Revised thru hole to accommodate new H-Point Tool design |

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| 336 | 472-4380-1 | D | Left Iliac Assembly | REVISED ITEM #2 PART #472-4381 AND ADDED DETAIL A | New H-PT. TOOL BEAR to accommodate the new H-Point Tool design |
| 375 | 472-5300 | C | Knee Cap Assy., Left | CORRECTED SIDE VIEWS | Corrected orientation of lower side views to match upper isometric views |
| 412 | 472-5700 | C | Knee Cap Assy., Right | CORRECTED SIDE VIEWS | Corrected orientation of lower side views to match upper isometric views |
| 451 | 472-7000-1 | C | Lower Leg Assembly Complete - Left | 472-7800-1 MOLDED SHOE ASS'Y. - LEFT WAS 472-7700-1 FOOT ASS'Y. - LEFT | |
| 475 | 472-7500-1 | F | Ankle Assembly, Left | DESCRIPTION OF ITEM 27 WAS STOP ASSEMBLY, REAR DORSI | Changed description to follow standard Naming convention |
| 503 | 472-7527 | A | Stop Assembly, Plantar | DRAWING TITLE WAS STOP ASSEMBLY, REAR DORSI | Changed description to follow standard Naming convention |
| - | 472-7700-1 | B | Foot Ass'y., Left | N/A | DRAWING REMOVED, Not Used In Molded Shoe Design |
| - | 472-7712 | B | Mounting Post, Achilles | N/A | DRAWING REMOVED, Not Used In Molded Shoe Design |
| - | 472-7714 | B | Bracket, Mounting-Heel/Achilles | N/A | DRAWING REMOVED, Not Used In Molded Shoe Design |
| - | 472-7716 | A | Sole Plate Ass'y., Left | N/A | DRAWING REMOVED, New Design Used for Molded Shoe |
| - | 472-7717 | E | Padding, Heel | N/A | DRAWING REMOVED, Not Used In Molded Shoe Design |
| - | 472-7725-1 | E | Foot Flesh, Left | N/A | DRAWING REMOVED, Not Used In Molded Shoe Design |
| 518 | 472-7800-1 | | Molded Shoe Ass'y. - Left | N/A | NEW DRAWING |
| 519 | 472-7802-1 | | Shoe Upper - Left | N/A | NEW DRAWING |
| 520 | 472-7750 | | Foot Bone Assembly | N/A | NEW DRAWING |
| 521 | 472-7743 | | Mounting Brkt. Heel/Achilles | N/A | NEW DRAWING |
| 522 | 472-7742 | | Foot Bone | N/A | NEW DRAWING |
| 523 | 472-7752 | | Insert - Achilles Tension | N/A | NEW DRAWING |
| 524 | 472-7804-1 | | Heel Pad Molded - Left | N/A | NEW DRAWING |
| 525 | 472-7803-1 | | Ball of Foot Pad Molded - Left | N/A | NEW DRAWING |
| 526 | 472-7801-1 | | Shoe Sole - Left | N/A | NEW DRAWING |
| 527 | 472-7744 | | Mounting Post, Lower Achilles | N/A | NEW DRAWING |
| 528 | 472-7710 | B | Plate Mounting, Tri Pack Accel. | 2X $\varnothing 3.70 +0.13 -0.03$ THRU M2.5x0.45 TAP ∇ 8 MIN. WAS (2X) M2.5X0.45 ∇ THRU, & 3.9 WAS 4.4; 2X $\varnothing 3.70 \nabla$ THRU $\varnothing 7.0$ 0.2X 90° WAS (2X) $\varnothing 3.5$ THRU \sphericalangle $\varnothing 6.4$ X 90.0°;REMOVED 9.5, 4.2, 10.54, 21.2, & 14.9; ADDED (17.5) TYP., 45°, 9, 7.54, & 15.1; CLEAR ANODIZED WAS BLUE ANODIZED | New Design for Molded Shoe |
| 529 | 472-7110 | B | Knee Bumper, Molded | ADDED PARTS LIST | |
| 533 | 472-7000-2 | C | Lower Leg Assembly Complete - Right | 472-7800-2 MOLDED SHOE ASS'Y. - RIGHT WAS 472-7700-2 FOOT ASS'Y. - RIGHT | Molded Foot Replaced with Molded Shoe |
| 534 | 472-7500-2 | F | Ankle Assembly, Right | DESCRIPTION OF ITEM 27 WAS STOP ASSEMBLY, REAR DORSI | Changed description to follow standard naming convention |
| - | 472-7700-2 | B | Foot Assembly, Right | N/A | DRAWING REMOVED, Not Used In Molded Shoe Design |
| - | 472-7718 | A | Sole Plate Ass'y., Right | N/A | DRAWING REMOVED, New Design Used for Molded Shoe |

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| - | 472-7725 | | Foot Flesh, Right | N/A | DRAWING REMOVED, Not Used In Molded Shoe Design |
| 535 | 472-7800-2 | | Molded Shoe Ass'y. - Right | N/A | NEW DRAWING |
| 536 | 472-7802-2 | | Shoe Upper - Right | N/A | NEW DRAWING |
| 537 | 472-7803-2 | | Ball of Foot Pad Molded - Right | N/A | NEW DRAWING |
| 538 | 472-7804-2 | | Heel Pad Molded - Right | N/A | NEW DRAWING |
| 539 | 472-7801-2 | | Shoe Sole - Right | N/A | NEW DRAWING |
| 542 | 472-3910 | D | Front Panel Assembly, Jacket | REVISED 472-3911, 472-393922, & 472-3912; DIMENSION 295 WAS 305 | Revised to match existing Jackets and to lengthen Crotch Strap for better fit |
| 543 | 472-3911 | C | Front Inside Panel Pattern (Neoprene) | REVISED SIDE SLOTS | Enlarged side slots to allow for more shoulder movement |
| 544 | 472-3927 | B | Front Interior Shoulder Patch | DIMENSION 137 WAS 153, 110 WAS 126, 11° WAS 10°, AND 101 WAS 0° | Revised to match existing Jackets |
| 546 | 472-3922 | B | Crotch Strap Assembly, Jacket | MOVED VELCRO TO OPPOSITE END AND LENGTHED STRAP; BLACK BIAS TAPE WAS RED BIAS TAPE IN NOTE 3; REMOVED NEOPRENE IS TO BE STRETCHED TO 711mm DURING SEWING FROM NOTE 3; (CORDURA) WAS (NEOPRENE) IN NOTE 1; INSIDE CORDURA WAS NEOPRENE IN NOTE 2; DIM. 864mm WAS 711mm; QTY. OF ITEM 2 PART #472-3924 WAS 1. | Revised to match existing Jackets and to lengthen Crotch Strap for better fit |
| 547 | 472-3923 | C | Inner Crotch Strap Pattern, Jacket | DIMENSION 864 WAS 762 AND 210 WAS 108; REMOVED "WITH 2 SIDES OF NYLON (N-2-S) COLORS BLACK AND RED" FROM NOTE 1 | Revised to match existing Jackets and to lengthen Crotch Strap for better fit |
| 548 | 472-3924 | B | Outer Crotch Strap Pattern, Jacket | DIMENSION 864 WAS 762 AND 210 WAS 108 | Revised to match existing Jackets and to lengthen Crotch Strap for better fit |
| 551 | 472-3915-1 | B | Upper Left Foam Pocket | DIMENSION 48° WAS 46° | Revised to match existing Jackets |
| 552 | 472-3915-2 | B | Upper Right Foam Pocket | DIMENSION 48° WAS 46° | Revised to match existing Jackets |
| 553 | 472-3913 | B | Stiffener Pocket, Jacket | NOTE: SEW 76mm x 16mm x BLACK HOOK VELCRO WAS SEW 76mm x 16mm BLACK LOOP VELCRO, DIM. 134 WAS 133 | Revised to match existing Jackets |
| 556 | 472-3912 | B | Front Outside Panel Pattern (Cordura) | REVISED SIDE SLOTS | Enlarged side slots to allow for more shoulder movement |
| 561 | 472-3952 | C | Inside Rear Panel Pattern | REMOVED WITH 2 SIDES OF NYLON (N-2-S). COLORS BLACK AND RED FROM MATERIAL NOTE; REMOVED NOTE 4 AND RENUMBERED. | Revised to match existing Jackets |
| 600 | SA572-S126 | - | Ø1.0 Achilles Load Cell | N/A | NEW DRAWING |
| - | SA572-S55 | B | Angular Rate Sensor - 1500 | N/A | DRAWING REMOVED FROM PACKAGE |
| 601 | SA572-S56 | C | Angular Rate Sensor - 8K | MASS WAS 3g; BANDWIDTH WAS 0-300 Hz OR 0-600 Hz (DC RESPONSE); CURRENT WAS 6mA NOMIN/AL; NOISE WAS 0.15% (RMS FULL SCALE) ADDED PERFORMANCE SPECIFICATIONS | Update SPECIFICATIONS and added PERFORMANCE specs. |
| 602 | SA572-S57 | C | Angular Rate Sensor - 12K | MASS WAS 3g; BANDWIDTH WAS 0-16500 Hz (DC RESPONSE); CURRENT WAS 6Ma NOMIN/AL; ADDED PERFORMANCE SPECIFICATIONS | Update SPECIFICATIONS and added PERFORMANCE specs. |
| 603 | SA572-S58 | C | Angular Rate Sensor - 18K | MASS WAS 3g; BANDWIDTH WAS 0-300 Hz OR 0-2000 Hz (DC RESPONSE); NOISE WAS <1.5% DEG/SEC vHz; CURRENT WAS 6mA NOMIN/AL; ADDED PERFORMANCE SPECIFICATONS | Update SPECIFICATIONS and added PERFORMANCE specs. |
| 611 | 472-8100 | C | Storage Bracket Assembly | TITLE WAS LIFTING BRACKET ASSEMBLY; ITEM 1 DESCRIPTION WAS LIFTING BRACKET WELDMENT | Description change |
| 612 | 472-8101 | B | Storage Bracket Weldment | TITLE WAS LIFTING BRACKET WELDMENT | Description change |
| 629 | DL472-1000 | B | Neck Twist Fixture | REVISED ITEM 8 - DL472-1160 - NECK TWIST FIXTURE PENDULUM ROD ASS'Y.; ITEM 11 DESCRIPTION WAS SCREW, SHCS M5-08 x 25; ITEM 15 PART # SA572-S56 WAS SA572-S55 | Increased pendulum weight |
| 634 | DL472-1120 | B | Neck Twist Fixture End Plate Assembly | REVISED ITEM #1 - DL472-1121 - NECK TWIST FIXTURE END PLATE, RIGHT | Increased hole size for better fit of Potentiometer |

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| 635 | DL472-1121 | B | Neck Twist Fixture End Plate Right | DIM. Ø11.5 THRU WAS Ø9.5 THRU | Increased hole size for better fit of Potentiometer |
| 637 | DL472-1160 | B | Neck Twist Fixture Pendulum Rod Ass'y. | REVISED ITEM 3 - DL472-1163 – NECK TWIST FIXTURE PENDULUM WEIGHT | Increased pendulum weight |
| 640 | DL472-1163 | B | Neck Twist Fixture Pendulum Weight | Ø69.9 WAS Ø50.8 | Increased pendulum weight |
| 648 | DL472-3000 | B | Lower Abdomen Probe Face Assembly | REVISED ITEM 3 - 472-3010 - LOWER ABDOMEN PROBE FACE FRONT PLATE | Rounded corners of face plate |
| 651 | DL472-3010 | B | Lower Abdomen Probe Face Front Plate | ADDED DIMENSION 4X R6 | Rounded corners |
| 653 | TLX-9000-007 | C | Test Fixture - Pendulum Arm | ADDED MATERIAL | |
| 656 | DL472-4000 | B | Achilles Fixture - Complete | REVISED DL472-4200 LOAD CELL MOUNTING ASSEMBLY | Shortened Pull Cable |
| 661 | DL472-4200 | A | Load Cell Mounting Assembly | Revised Part # DL472-4203 PULL WIRE ASSEMBLY | Shortened Pull Cable |
| 670 | DL472-4203 | A | Pull Wire Assembly | DIMENSION 108.0 [4.25] WAS 139.7 [5.50] | |
| | TLX-9000-016 | | External Positioning Bracket | N/A | DRAWING REMOVED FROM PACKAGE |
| 677 | TLX-9000-016M | | External Positioning Bracket | N/A | NEW DRAWING |
| 686 | DL472-6000 | | Digital Slide Calibration Fixture | N/A | NEW DRAWING |
| 687 | DL472-6010 | | DSCF - Front IRTACC Mount Block Ass'y. | N/A | NEW DRAWING |
| 688 | DL472-6011 | | DSCF - Front IRTRACC Mount Block | N/A | NEW DRAWING |
| 689 | DL472-6012 | | DSCF - Front IRTRACC Mount Block Ass'y. - Screw Retainer | N/A | NEW DRAWING |
| 690 | DL475-6050 | | DSCF - Rear IRTRACC Mount Block Ass'y. | N/A | NEW DRAWING |
| 691 | DL472-6051 | | DSCF - Rear IRTRACC Mount Block | N/A | NEW DRAWING |
| 692 | DL472-6100 | | Potentiometer Calibration Fixture Ass'y. | N/A | NEW DRAWING |
| 693 | DL472-6121 | | Potentiometer Hold Down Block | N/A | NEW DRAWING |
| 694 | DL472-6122 | | Potentiometer Clamp Block | N/A | NEW DRAWING |
| 695 | TF-472-6000 | | Thor 3D IRTRACC Set Up Fixture | N/A | NEW DRAWING |
| 696 | DL472-4300 | | Tibia Adaptor | N/A | NEW DRAWING |