



THE LYT 20 TON SLIP TYPE ELEVATOR OPERATING PROCEDURE MANUAL

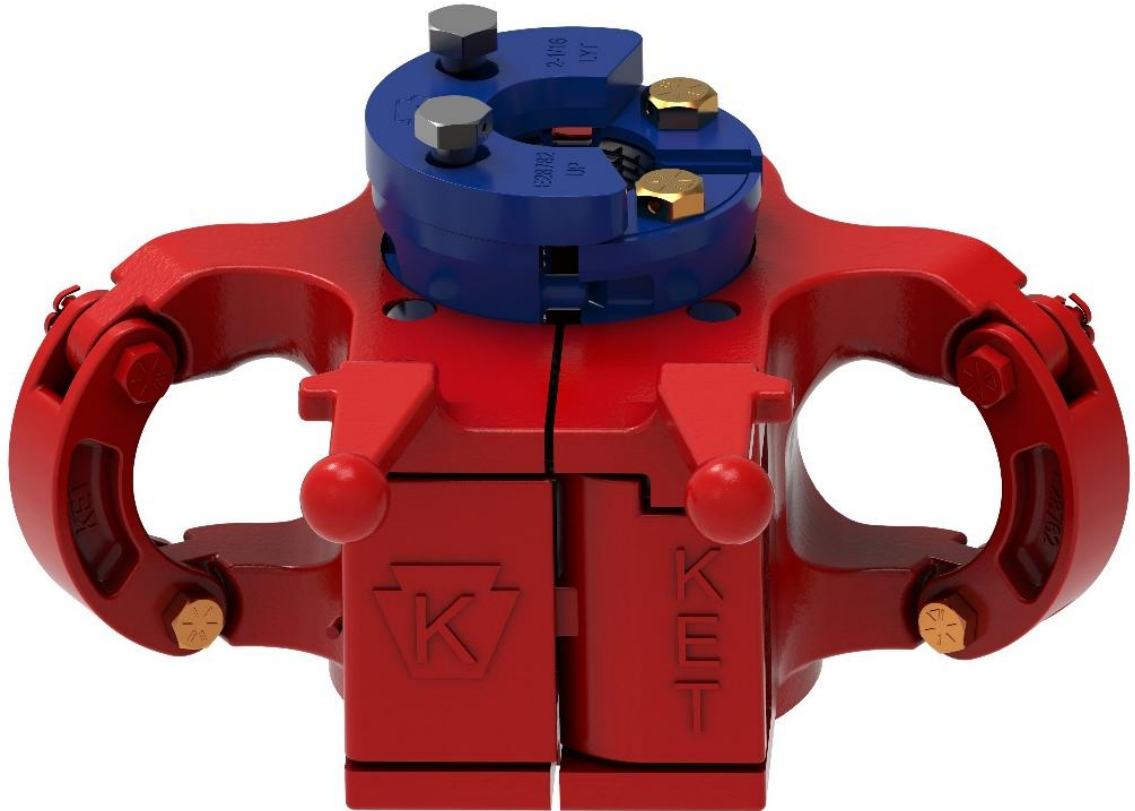


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"LYT" SERIES ELEVATOR

SAFETY INSTRUCTIONS

The most important safety device for this tool is **YOU**. Your good judgment is the best protection against injury.

⚠ WARNING



To reduce the risk of injury, everyone using, installing, performing maintenance, changing accessories on, or working near this tool must read and understand these instructions before performing any such task.

Operating Hazards

⚠WARNING: Do not overload the elevator. Overloading the recommended rating could cause series injury or death.

⚠WARNING: Check the latch for proper engagement. A malfunctioning latch could cause the elevator to unexpectedly unlatch or not latch at all and could result in injury or death.

⚠WARNING: Always insure that the elevator and slips are correct for the tubular it is to be used on. Failure to use the proper elevator and slips could result in injury or death.

⚠WARNING: Always ensure that the tool joint or collar O.D. of the pipe is correct. Failure to maintain adequate contact area could result in injury or death.

⚠WARNING: To prevent injury or elevator malfunction, inspect the elevator slips, inserts, setting plate, retainer plate, retainer screws, slip bolts, setting plate bolts, bushings, latch, hinge pin, and latch pin regularly for wear. Failure to inspect these parts could cause injury or death.

⚠WARNING: Do not use undersized pipe. Using undersized pipe could cause an inadequate load bearing area and uneven stress distribution. Both of which may result in injury or death.

⚠WARNING: Do not use the elevator if the latch or latch lock pin is malfunctioning. Latch or latch lock pin failure, may result in injury or death.

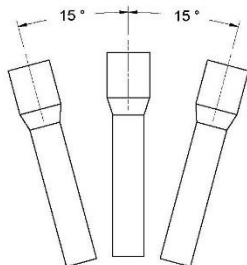
⚠WARNING: All warning labels attached to the equipment must be observed. The warning labels must be present on the tool. Do not remove the labels. If they are missing, replacing is mandatory.

⚠WARNING: The company operating the tool is responsible for issuing work instructions for safe and proper use of the equipment.

⚠WARNING: The operating company is responsible for verifying that any personnel operating, servicing, inspecting, or otherwise involved with the use of the tool must be properly trained correctly.

⚠WARNING: Do not use oversized pipe. Using oversized pipe could make it difficult or impossible to properly latch the elevator.

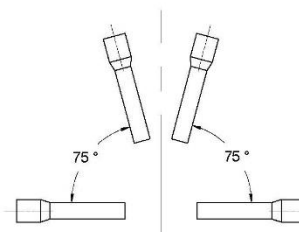
Vertical / Non-vertical Lifting



Vertical lifting is considered vertical $\pm 15^\circ$



Non-vertical lifting is considered $\leq 75^\circ$ as max. from horizon.



DO NOT DISCARD – GIVE TO USER

Keystone ENERGY TOOLS

"LYT" SERIES ELEVATOR

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Workplace Hazards

⚠WARNING: keep hands/fingers clear of the elevator bore when installing the elevator around the pipe.

⚠WARNING: Always use the proper tools and wear eye, head, hand, and foot protection when servicing this elevator.

⚠WARNING: Maintain a balanced body position and secure footing.

⚠WARNING: For professional use only.



Read Operation manual before use.



Pay attention: do not place your hands between moving parts.



DO NOT lift from this area.



Be careful when lifting from these areas.

Maintenance Hazards

⚠WARNING: Use only Keystone Energy Tool components on equipment. Failure to do so may affect the correct functioning of the tool and may cause injury or death.

⚠WARNING: KET equipment is made of cast alloy heat treated steel and should never be welded on in the field. Improper welding can cause cracks or brittleness in the castings which could result in drastic weakening or failure of the equipment. Any welding or machining must be performed by an authorized KET or API certified repair center.

⚠WARNING: Improper welding and/or re-machining of cast alloy heat treated steel can cause personnel injury, property damage, or death.



DO NOT DISCARD – GIVE TO USER **Keystone** ENERGY TOOLS

1.0 Introduction

This technical manual contains operation and maintenance instructions for Keystone “LYT” series, slip-type, center latch, manual elevators with assembly drawings and complete parts breakdown. It provides a guide for proper field use, disassembling and repair.

The Keystone “LYT” series elevators are designed to be used on all API collar type or integral joint tubing. They are balanced making them easy to handle and easy to latch on and take off at any point below the upset of the tubing. All “LYT” series elevators incorporate a four slip interlocking gripping mechanism assuring a uniform grip with minimum marking to the tubular. All Keystone elevators are made up of high alloy, heat treated, steel construction, and designed to meet or exceed API specifications.

The “LYT” series elevators include safety features such as guarded operating handles to help prevent accidents to operators and an extra handle at the rear of the elevator for easier, safer operation. All type “LYT” elevators incorporate a latch and safety latch lock combination. The size range of the “LYT” series elevator is as illustrated in the table provided.
(See Figure 1)

NOTE: The maximum allowable load capacity of an elevator and slip assembly is governed solely by the **elevator body rating**. The slip functions as a load-transfer component and does not define the load capacity of the elevator it is used in.

Model	Tons	Range
LYT	20	3/4" – 2 1/16"

Figure 1

NOTE: WARNING labels have been installed at critical areas on the tool. Familiarize yourself with their message and locations before proceeding to operate equipment.

See Safety Instructions Page 4

⚠WARNING: During use, the elevator should never be run into the tool joints or couplings inducing any type of shock load into the equipment. Shock loads are an impact-type force applied over a short instant of time. In shock loading, the energy of the applied force is ultimately absorbed, or transferred, to the elevator designed to resist the force. The application of shock loads to an elevator can cause shock/fatigue stress loading potentially resulting in premature stress/fatigue failure.

CE Marking



The tool complies with the Machinery Directive 98/37/EC and 2006/42/EC

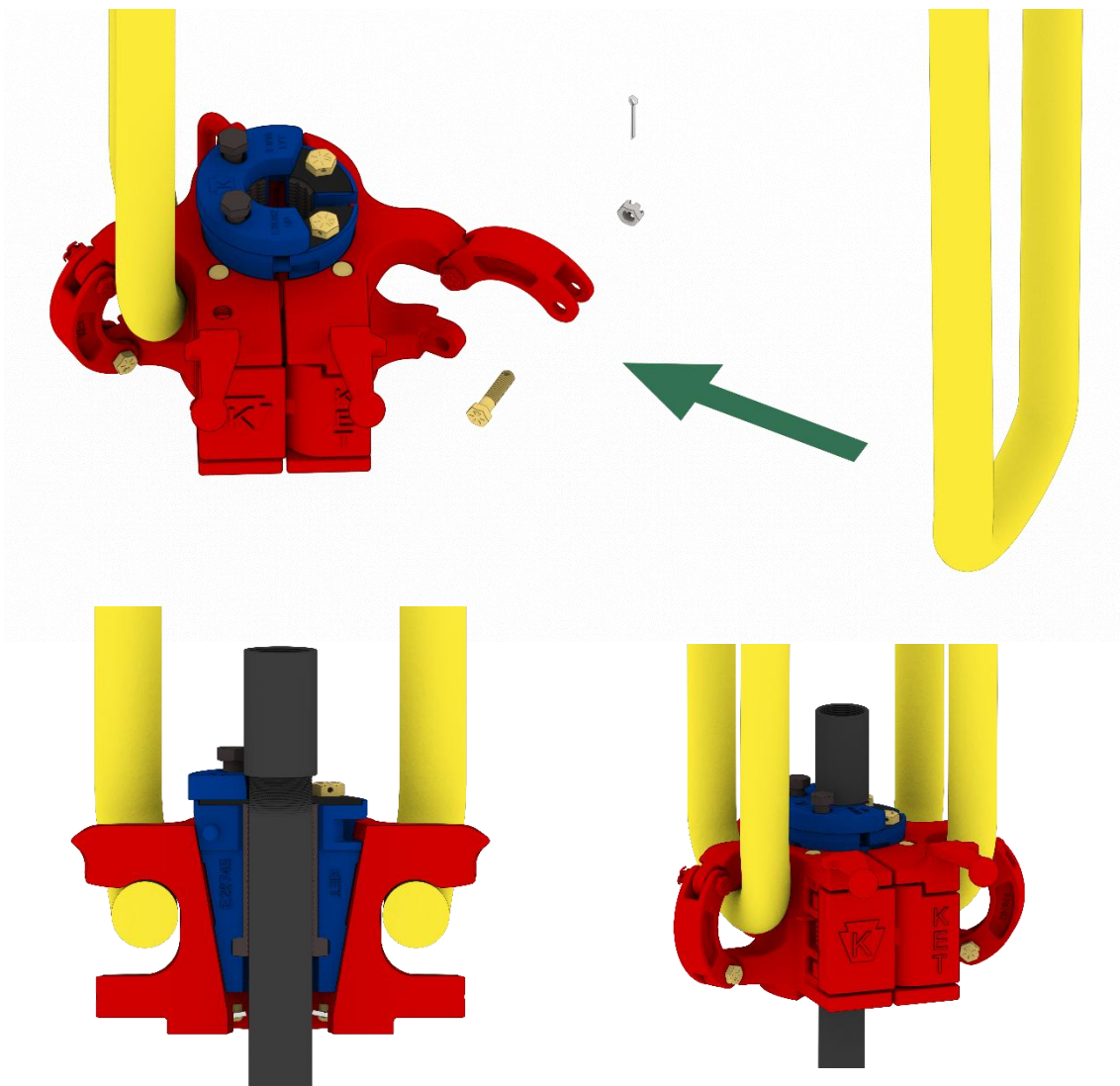
This operating manual is a part of the technical documentation for the product.

The EC Declaration of Conformity is delivered together with the product. Keep these instructions and the associated documents for later use.

2.0 Installation

As with any manual operated elevator, the “HYC” series elevator is easily installed on the links. Before installing ensure that the correct size of elevator, slip assembly, setting ring, and inserts are installed for the tubular being run. After using a tugger line or cat line to lift the elevator onto the rig floor and position it next to the rotary table, perform the following procedure:

- ▶ Remove cotter pins and nuts from the bottom link block bolts and then remove the bolts from the elevator.
- ▶ Lift the bottom of the link blocks and hook the small end of the links through the link blocks and link arms.
- ▶ Lower the link blocks and re-install the link block bolts, nuts and cotter pins.



3.0 Operation

Operation of the elevator is straight forward. The door is opened by gripping the latch lock and pulling outward. This automatically releases the latch and latch lock assembly so the elevator can be positioned on the pipe. When the elevator is properly closed around the pipe, the latch locks automatically (see caution). The slips set when the elevator is raised, and the setting ring makes contact with the tool joint or collar which pushed the slips down in the elevator bore. To open the elevator, ensure that there is no load on the elevator and that the slips are not under any load, then simply pull the latch lock handle out and swing the elevator halves apart. When making or breaking connections always ensure that the slips are released (in the raised position). Once the connection is finished then the load can be re-applied.

NEVER ROTATE PIPE WITH THE SLIPS SET

- ▶ “LYT” series elevators should only be used with the proper size setting ring and inserts for the tubular they are being used on.
- ▶ Elevators are manufactured to operate at rated capacity in a vertical direction. When used to pick up or lay down a single joint of pipe in a non-vertical position, the operator must ensure that the latch, safety latch & latch springs are in good working order and that the elevator is fully latched. Prior to hoisting with the elevator from any position, it is necessary to ensure that the elevator is completely installed around the pipe and that the latches are properly engaged. Failure to do this could result in serious injury.
- ▶ Be sure to use the handles provided for operating the elevator. Keep hands and fingers clear of the elevator bore when installing the elevator on the tool joint.
- ▶ Make sure all slip segments are free and in the up position when latching the elevator. If any of the segments are stuck in the down position, the elevator will not close properly.
- ▶ Oversized pipe could cause difficulties in latching or possibly result in the elevator latching partially or not at all. Undersized pipe will cause the slips to not set properly and possibly allow the tool joint to slip through the elevator.
- ▶ Always inspect the inserts and setting ring for proper size and wear, a wrong size or worn setting ring or inserts could allow the pipe to become wedged or fall through the elevator.
- ▶ Inspect the bore, latch, latch pin and hinge pin regularly for wear.
- ▶ Make sure link block bolts are retained with nuts and cotter pins.

4.0 Maintenance & Inspection

PRACTICE SAFETY AT ALL TIMES WHEN SERVICING THE EQUIPMENT AND USE APPROVED SAFETY METHODS, MATERIAL AND TOOLS. ALWAYS WEAR PROTECTIVE GEAR FOR EYES, HEAD, AND HANDS.

TO ENSURE OPTIMUM PERFORMANCE FROM THE “MYT” SERIES ELEVATORS, THE FOLLOWING CHECKS SHOULD BE PERFORMED BY A PERSON KNOWLEDGEABLE OF THE EQUIPMENT AND ITS FUNCTION, A MINIMUM OF:

DAILY:

- ▶ Visually inspect for cracks, loose fits or connections, elongation of parts, and other signs of wear, corrosion or overloading.
- ▶ Loose or missing components, deterioration, proper lubrication, and adjustment.
- ▶ Check for worn hinge pin, latch pin, and latch lock pin. These may inhibit proper closing of the door and latch lock engagement.
- ▶ Check slip springs, rubber bushings, inserts for wear.
- ▶ Check slip setting ring for wear and damage in the setting area.
- ▶ Check for proper operation of latch stop mechanism. The latch should not stop against door when closed but have no more than $\frac{1}{4}$ " of standoff from the door.
- ▶ Check springs for damage or lack of tension.
- ▶ Check link block bolts for nuts and cotter pins.
- ▶ Check Setting plate for proper movement. This movement is required to allow the slips to move freely up and down without jamming. Without this movement, the setting plate bolts would shear.

EVERY 6 MONTHS:

- ▶ This inspection should include everything that is done in the daily inspection plus.
- ▶ A full NDT inspection of all primary-load carrying components as defined by the manufacturer
- ▶ Inspect for excessive wear, cracks, flaws and deformations.

To perform the 6 month inspection all foreign material such as dirt, paint, grease, oil, scale, etc. shall be removed from the elevator by a suitable method of either, grit blasting, or paint stripping and steam cleaning.

FREQUENCY OF INSPECTIONS:

The owner/user of the equipment should develop schedules of inspection based upon experience, the manufactures recommendations, and one or more of the following factors.

- | | |
|---------------------------|-----------------|
| ▶ Environment | ▶ Testing |
| ▶ Load cycles | ▶ Repairs |
| ▶ Regulatory requirements | ▶ Remanufacture |
| ▶ Operating time | |

4.0 Maintenance & Inspection

Lubricate the elevator regularly during usage and when in storage to prevent corrosion. Use an extreme pressure, multi-purpose, lithium base grease of no. 1 or no. 2 consistency and multi-weight motor oil. When the elevator is in use, lubricate according to the following schedule.

*****When greasing of pins make sure the pump grease until it comes out of both ends.*****

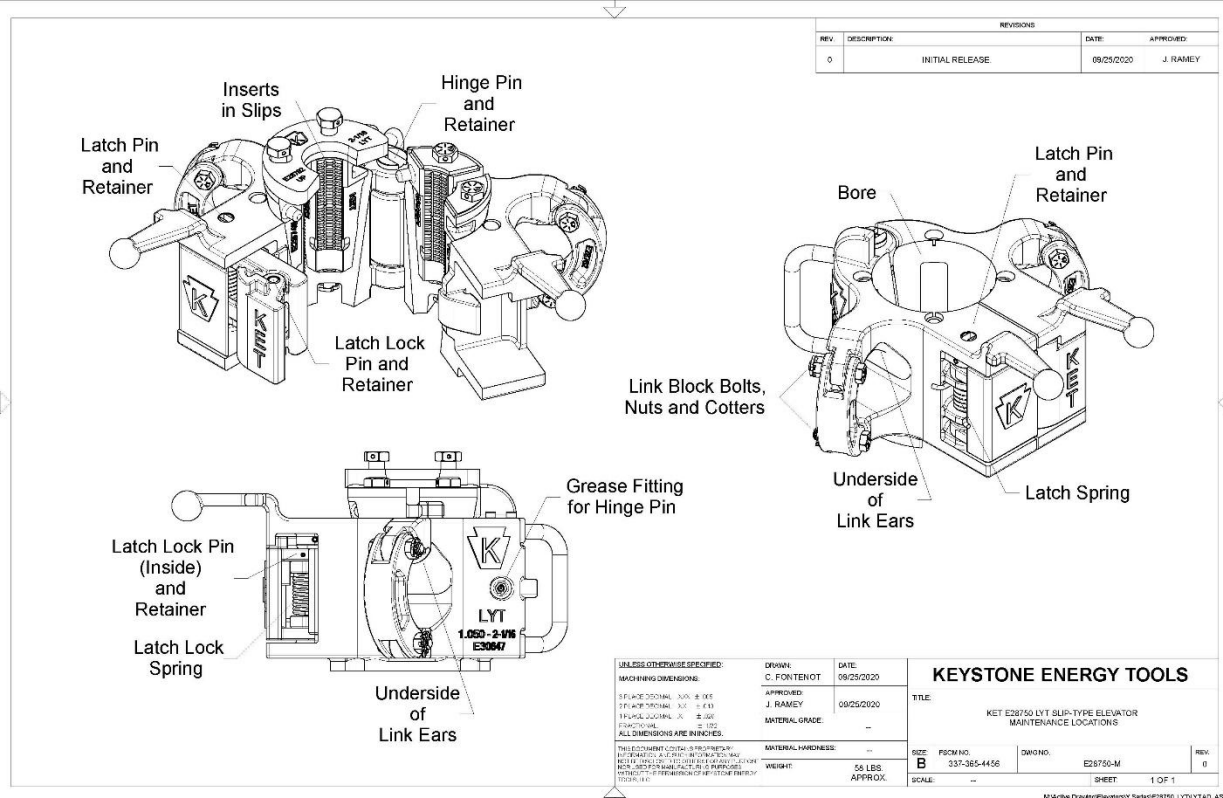
DAILY:

- ▶ Grease hinge pin
- ▶ Lubricate latch pin and latch lock pin
- ▶ Grease underside of the lifting eyes
- ▶ Check link block bolts for nuts and cotter pins

WEEKLY:

- ▶ Brush Grease on springs
- ▶ Grease link retainer fasteners
- ▶ Check link block bolts for nuts and cotter pins
- ▶ Grease Bore
- ▶ Grease the backs of the slips

4.0 Maintenance Locations



Keystone ENERGY TOOLS

5.0 Repair & Critical Areas

The “LYT” series elevator incorporate lock bars to retain the hinge & latch pins.

INSERT REPLACEMENT

Always wear eye protection when removing or replacing inserts to protect against chip fragments.

TO REMOVE WORN INSERTS OR CHANGE SIZES:

- ▶ Remove guide plate, slip setting ring, bushings, and insert retainer plates.
- ▶ Using a brass punch and hammer, drive out the inserts from the bottom of the slip.
- ▶ Clean and grease the insert slots before installing new inserts.

Important: Install the correct size inserts for the tubular used and make sure the teeth are pointing in the up position.

SLIP INSERTION AND REMOVAL:

- ▶ Open the elevator fully and clean the slip taper and spring pockets.
- ▶ Clean the slips if necessary and grease the taper portion of the slip body.
- ▶ Insert the slip springs into the spring pocket leaving the inner edge of the spring exposed.
- ▶ Starting on the left side of the elevator and proceeding counter clockwise, insert assembled slip bodies into the elevator one at a time. Compress the edge of the slip spring with the bottom of the top lug on the slip back and ease it into the upper spring pocket.
- ▶ Then insert the slip retaining pin or bolt through the top of the elevator, slip body lug and into the slip spring. Do not insert the pin or bolt completely through the spring until both pins retain their respective slip body and slip spring.

- ▶ Once both slip pins or bolts are in place then screw retaining bolts into place.
- ▶ Make sure the proper size of inserts are loaded into the slip segments and then place an insert retainer plate into each slip.
- ▶ Place the slip setting ring over the slips on the left hand side of the elevator. Attach the setting ring to the slip segments with rubber bushings, lock-washers and setting plate bolts. (Note: the setting ring must be placed on the left side of the elevator to avoid obstructing the tubing entering the elevator).
- ▶ Secure the insert retainer plates with the insert retainer screws on the right side of the elevator.
- ▶ Tighten all insert retainer screws. Then tighten the setting plate bolts to the torque value of a minimum of **18 ft-lb.** & maximum of **20 ft-lb.** ensuring there is a **1/32” to 3/32” gap** between the underside of the bolt head and the washer or setting plate retainer. (See Figure 2)
- ▶ All setting plate bolts and insert retainer screws that secure the slip setting ring and insert retainers shall be secured with safety wire to prevent them from backing out during operation. A minimum of **.032” stainless steel safety wire** is recommended. (See Figure 3)

Important: Never exceed 20 ft. lbs. on setting plate bolt torque. Failure to do so can result in injury or death.

TO PREVENT JAMMING, CHECK EACH PAIR OF SLIP BODIES FOR THE FOLLOWING:

- ▶ Free movement of slip body on guide pin.
- ▶ No interface of slip guide lug in spring recess slots.
- ▶ A gap between the slips when they are set and fully compressed.

For slip removal, the top guide plate, slip setting ring, and slip retaining bolt must be removed from the elevator.

5.0 Repair & Critical Areas

“Y” SERIES DISASSEMBLE PROCEDURE

- ▶ “Y” series latch pins are retained by dowel pins that must be removed before driving out latch pin. Drive out latch pin from bottom of elevator.
- ▶ To remove the latch lock pin, remove dowel pins and drive out latch lock pin. For (LYT) remove cotter key and drive out the latch lock pin.
- ▶ Remove the hinge pin by driving it out from the bottom of the elevator, shearing the lock bar in the process and remove the latch pin in the same manner. As an alternative method, the lock bar can be drilled in the center, then split by using a chisel and removed. In either case the lock bar must be discarded.
- ▶ To remove the link block, remove cotter keys from the link block bolts and unscrew link lock bolts.
- ▶ If the door lug pin is damaged, drive or press it out from the bottom of the lug.
- ▶ Inspect all parts for damage, wear, and cracks and replace as required. It is recommended that the springs be replaced at this time.
- ▶ Reassembling is the reverse of disassembling.
- ▶ Install new lock bars and or dowel pins on hinge & latch pins.
- ▶ After assembly, ensure that full spring tension is available to close the latch & latch lock. The latch spring should contact the latch cam and or latch stop which in turn transmits the spring force to the latch.
- ▶ Check the latch for proper engagement with the door lug pin by holding the body and door apart (such that the latch contacts the lug on the door) and attempt to pry the latch open. After minimal travel of the latch the hook on the latch lock should engage with the door lug pin stopping the travel of the latch.
- ▶ Check link block bolts, nuts, & cotter pins

KEYSTONE ENERGY TOOLS, FACTORY TOOL REPAIR.

Worn or damaged elevators are returned to like new condition with factory repair procedures based upon API 8B Specification. When tools are received for repair, they are disassembled, dimensionally checked and undergo a magnetic particle inspection. Worn areas are repaired by welding or replacing with new parts, and then heat-treated to original hardness specifications. They are proof load tested and undergo another magnetic particle inspection 24 hours after load test. They are then reassembled, functionally tested and re-certified.

CAUTION:

- ▶ Do not use any elevator if the latch and latch lock do not function properly.
- ▶ Use only parts manufactured and sold by Keystone Energy Tools or one of KET's authorized distributors.
- ▶ Re-machining and re-heat treating should be performed only by KET or at a KET approved repair facility. Improper machining could result in increased stress or improper alignment of the component parts. Either condition could be hazardous to personnel and equipment.
- ▶ Due to the complex metallurgy used in KET elevators, welding should be done only at KET or a KET approved repair facility.
- ▶ Bodies, doors, and latches are specifically matched by KET professionals. For this reason, a body, door and or latch from one elevator should never be exchanged with parts from another elevator.
- ▶ Always wear eye protection and the proper clothing when grinding, striking, or handling parts.
- ▶ Make sure link block bolts have nuts and cotter pins.
- ▶ If the load rating of the elevator is ever exceeded for any reason the elevator should immediately be removed from service and returned to the manufacturer for evaluation.

5.0 Repair & Critical Areas

Setting Plate Movement Illustration & Instructions

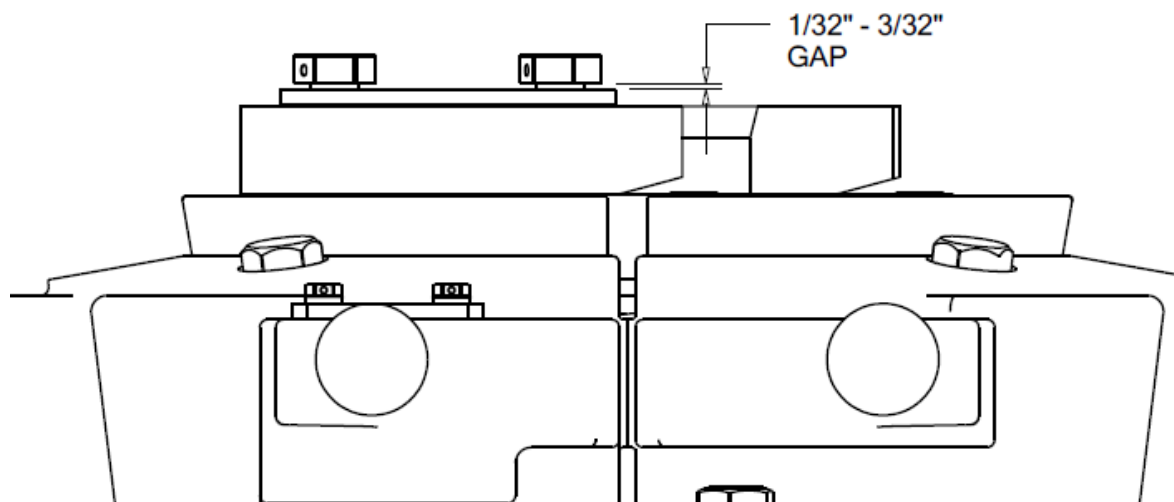


Figure 2

Design Intent

KET Slip Type Elevators are intentionally designed so the **setting plates** remain **free to move** after the setting plate bolts have been tightened to the specified torque value of a minimum of **18 ft-lb.** and a maximum of **20 ft-lb.** Maintaining the required **1/32 in. to 3/32 in. GAP** clearance is a critical design feature that allows the setting plates to articulate with the movement of the slips during operation.

As the slips are loaded by the tubular, they move downward and inward within the elevator body. This movement changes the relative position of the setting plate bolts between the unloaded (slips raised) and loaded (slips set) positions. The required clearance allows the setting plates to accommodate this movement without binding.

If the specified clearance is not maintained, the setting plate may become clamped between the bolt head and the setting plate retainer. As the slips move downward and inward under load, the resulting side loading and misalignment can cause the setting plate bolts to become wedged, restricting the intended movement of the setting plate, and possibly shearing the bolts. This condition subjects the bolts and associated components to loads for which they were not designed and may result in component damage or failure.

Maintaining the specified bolt torque and clearance is therefore essential to ensure proper elevator operation and to minimize the risk of component failure that could result in dropped objects.

⚠ WARNING: Never stack washers, retainers, or modify setting plate bolt lengths in any way to eliminate the setting plate from having the required gap.

5.0 Repair & Critical Areas

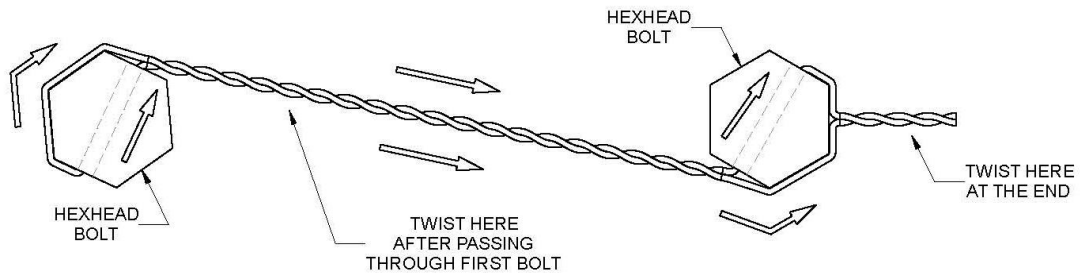
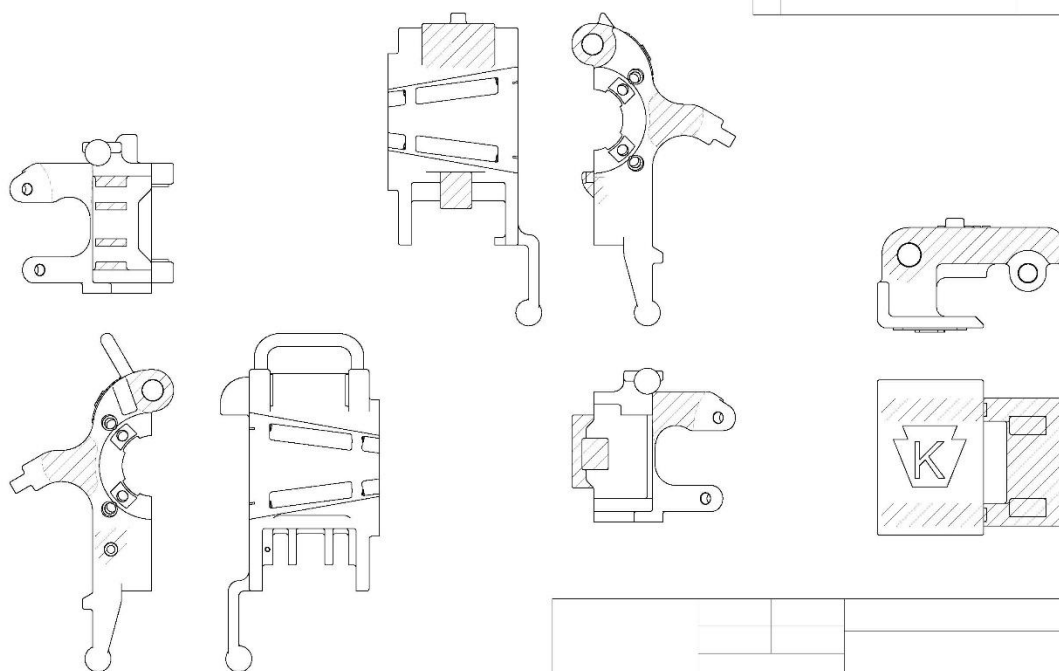
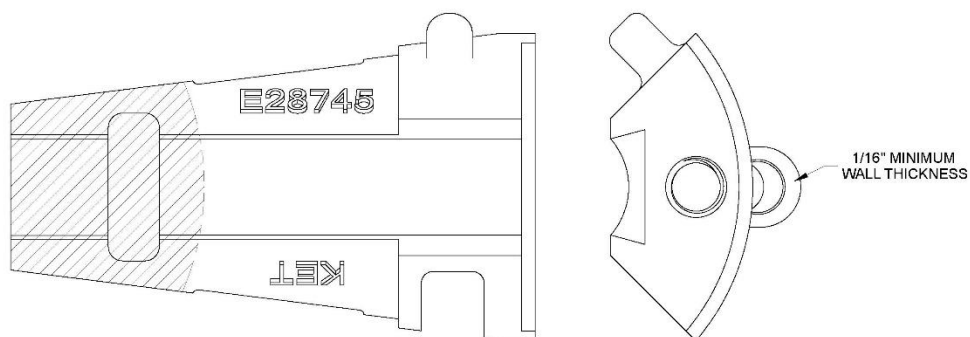


Figure 3

5.0 Repair & Critical Areas



REVISIONS			
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0	INITIAL RELEASE.	08/23/2021	J. RAMEY

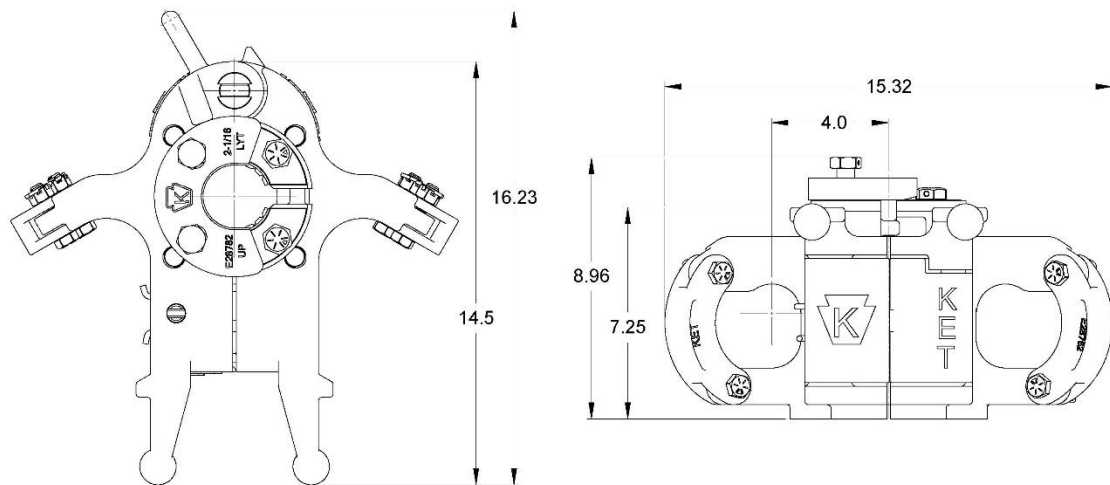


AREAS HATCHED ARE
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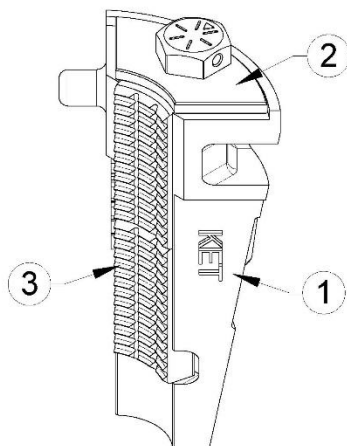
M-Active Dredger/Elevator/Series R28750 1 Yr/287545 2.0631 Yr Sls Sermant R287545 2.0631 Yr Sls Sermant 4D R6

6.0 Technical Drawings



UNLESS OTHERWISE SPECIFIED:		DRAWING: C. FORTENOT		DATE: 08/23/2021	
MACHINING DIMENSIONS:		APPROVED:		TITLE:	
7 PLACE DECIMALS, 2000, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815,					

1. SLIP SEGMENT
2. INSERT RETAINER
3. INSERT (x2)

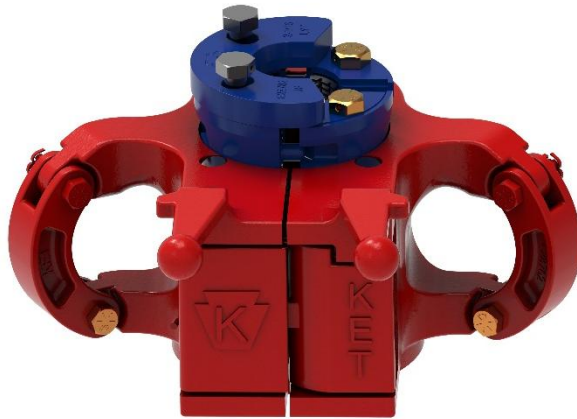


UNLESS OTHERWISE SPECIFIED: FINISHES: 1. PAINT: PRIMER, 2. COAT 3. COAT 4. COAT 5. COAT 6. COAT 7. COAT 8. COAT 9. COAT 10. COAT 11. COAT 12. COAT 13. COAT 14. COAT 15. COAT 16. COAT 17. COAT 18. COAT 19. COAT 20. COAT 21. COAT 22. COAT 23. COAT 24. COAT 25. COAT 26. COAT 27. COAT 28. COAT 29. COAT 30. COAT 31. COAT 32. COAT 33. COAT 34. COAT 35. COAT 36. COAT 37. COAT 38. COAT 39. COAT 40. COAT 41. COAT 42. COAT 43. COAT 44. COAT 45. COAT 46. COAT 47. COAT 48. COAT 49. COAT 50. COAT 51. COAT 52. COAT 53. COAT 54. COAT 55. COAT 56. COAT 57. COAT 58. COAT 59. COAT 60. COAT 61. COAT 62. COAT 63. COAT 64. COAT 65. COAT 66. COAT 67. COAT 68. COAT 69. COAT 70. COAT 71. COAT 72. COAT 73. COAT 74. COAT 75. COAT 76. COAT 77. COAT 78. COAT 79. COAT 80. COAT 81. COAT 82. COAT 83. COAT 84. COAT 85. COAT 86. COAT 87. COAT 88. COAT 89. COAT 90. COAT 91. COAT 92. COAT 93. COAT 94. COAT 95. COAT 96. COAT 97. COAT 98. COAT 99. COAT 100. COAT 101. COAT 102. COAT 103. COAT 104. COAT 105. COAT 106. COAT 107. COAT 108. COAT 109. COAT 110. COAT 111. COAT 112. COAT 113. COAT 114. COAT 115. COAT 116. COAT 117. COAT 118. COAT 119. COAT 120. COAT 121. COAT 122. COAT 123. COAT 124. COAT 125. COAT 126. COAT 127. COAT 128. COAT 129. COAT 130. COAT 131. COAT 132. COAT 133. COAT 134. COAT 135. COAT 136. COAT 137. COAT 138. COAT 139. COAT 140. COAT 141. COAT 142. COAT 143. COAT 144. COAT 145. COAT 146. COAT 147. COAT 148. COAT 149. COAT 150. COAT 151. COAT 152. COAT 153. COAT 154. COAT 155. COAT 156. COAT 157. COAT 158. COAT 159. COAT 160. COAT 161. COAT 162. COAT 163. COAT 164. COAT 165. COAT 166. COAT 167. COAT 168. COAT 169. COAT 170. COAT 171. COAT 172. COAT 173. COAT 174. COAT 175. COAT 176. COAT 177. COAT 178. COAT 179. COAT 180. COAT 181. COAT 182. COAT 183. COAT 184. COAT 185. COAT 186. COAT 187. COAT 188. COAT 189. COAT 190. COAT 191. COAT 192. COAT 193. COAT 194. COAT 195. COAT 196. COAT 197. COAT 198. COAT 199. COAT 200. COAT 201. COAT 202. COAT 203. COAT 204. COAT 205. COAT 206. COAT 207. COAT 208. COAT 209. COAT 210. COAT 211. COAT 212. COAT 213. COAT 214. COAT 215. COAT 216. COAT 217. COAT 218. COAT 219. COAT 220. COAT 221. COAT 222. COAT 223. COAT 224. COAT 225. COAT 226. COAT 227. COAT 228. COAT 229. COAT 230. COAT 231. COAT 232. COAT 233. COAT 234. COAT 235. COAT 236. COAT 237. COAT 238. COAT 239. COAT 240. COAT 241. COAT 242. COAT 243. COAT 244. COAT 245. COAT 246. COAT 247. COAT 248. COAT 249. COAT 250. COAT 251. COAT 252. COAT 253. COAT 254. COAT 255. COAT 256. COAT 257. COAT 258. COAT 259. COAT 260. COAT 261. COAT 262. COAT 263. COAT 264. COAT 265. COAT 266. COAT 267. COAT 268. COAT 269. COAT 270. COAT 271. COAT 272. COAT 273. COAT 274. COAT 275. COAT 276. COAT 277. COAT 278. COAT 279. COAT 280. COAT 281. COAT 282. COAT 283. COAT 284. COAT 285. COAT 286. COAT 287. COAT 288. COAT 289. COAT 290. COAT 291. COAT 292. COAT 293. COAT 294. COAT 295. COAT 296. COAT 297. COAT 298. COAT 299. COAT 300. COAT 301. COAT 302. COAT 303. COAT 304. COAT 305. COAT 306. COAT 307. COAT 308. COAT 309. COAT 310. COAT 311. COAT 312. COAT 313. COAT 314. COAT 315. COAT 316. COAT 317. COAT 318. COAT 319. COAT 320. COAT 321. COAT 322. COAT 323. COAT 324. COAT 325. COAT 326. COAT 327. COAT 328. COAT 329. COAT 330. COAT 331. COAT 332. COAT 333. COAT 334. COAT 335. COAT 336. COAT 337. COAT 338. COAT 339. COAT 340. COAT 341. COAT 342. COAT 343. COAT 344. COAT 345. COAT 346. COAT 347. COAT 348. COAT 349. COAT 350. COAT 351. COAT 352. COAT 353. COAT 354. COAT 355. COAT 356. COAT 357. COAT 358. COAT 359. COAT 360. COAT 361. COAT 362. COAT 363. COAT 364. COAT 365. COAT 366. COAT 367. COAT 368. COAT 369. COAT 370. COAT 371. COAT 372. COAT 373. COAT 374. COAT 375. COAT 376. COAT 377. COAT 378. COAT 379. COAT 380.	
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HiActive Drawing/Elevator/5 Series/E28750 LYTManual/Models for Manual/2.263 LYT Slip Assembly AD ASI

7.0 LYT Elevator & Assemblies

PART NUMBER	DESCRIPTION	SIZE OF LINKS	WEIGHT(lbs.)
E28750	LYT ELEVATOR LESS SLIP ASSEMBLY	3/4" - 2-1/16"	58.00



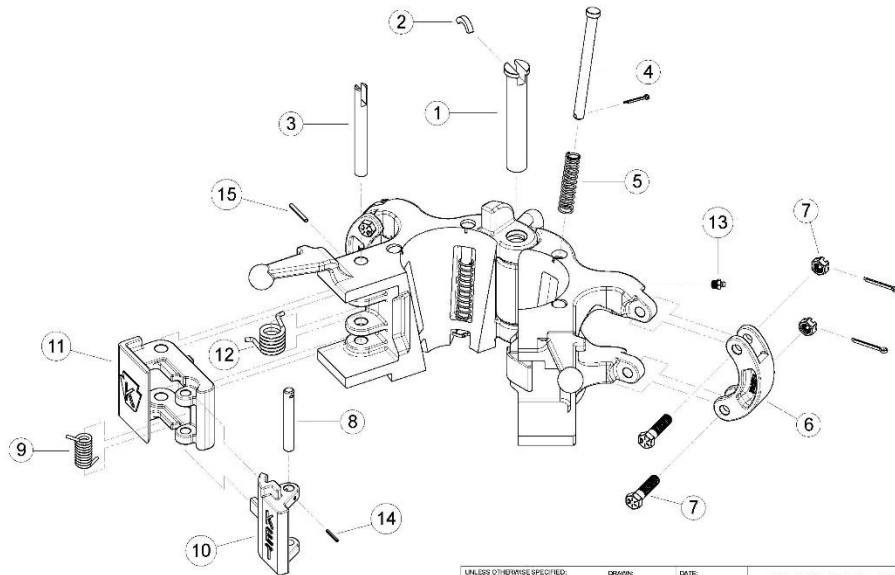
LYT SLIP ASSEMBLIES

PART NO.	DESCRIPTION	WEIGHT (lbs.)
E28745-6	2-1/16" X 2-1/16" LYT SLIP ASSEMBLY	17.00
E28745-5	2-2/16" X 2" LYT SLIP ASSEMBLY	17.00
E28745-4	2-1/16" X 1-1/2" (1.900") LYT SLIP ASSEMBLY	17.00
E28745-3	2-1/16" X 1-1/4" (1.660") LYT SLIP ASSEMBLY	18.00
E28745-2	2-1/16" X 1" (1.315") LYT SLIP ASSEMBLY	20.00
E28745-7	2-1/16" X 3/4" (1.050") LYT SLIP ASSEMBLY	20.00

LYT SETTING RINGS

PART NO.	ITEM#	DESCRIPTION	#REQ.	WEIGHT (LBS)
E28782	19	2 1/16" SETTING PLATE	1	2.25
E28737	19	2" SETTING PLATE	1	2.35
E28783	19	1 1/2" (1.900") SETTING PLATE	1	3.00
E28784	19	1 1/4" (1.660") SETTING PLATE	1	3.10
E28736	19	1" (1.315") SETTING PLATE	1	3.15
E28735	19	3/4" (1.050") SETTING PLATE	1	3.20

8.0 LYT Elevator Replacement Parts



UNLESS OTHERWISE SPECIFIED:

MAKING DIMENSIONS:

3-Piece Dimensions: 1/16" - 1/8"

2-Piece Dimensions: 1/8" - 1/4"

1-Piece Dimensions: 1/4" - 1/2"

1/2" - 1"

1" - 2"

2" - 4"

4" - 6"

6" - 8"

8" - 10"

10" - 12"

12" - 14"

14" - 16"

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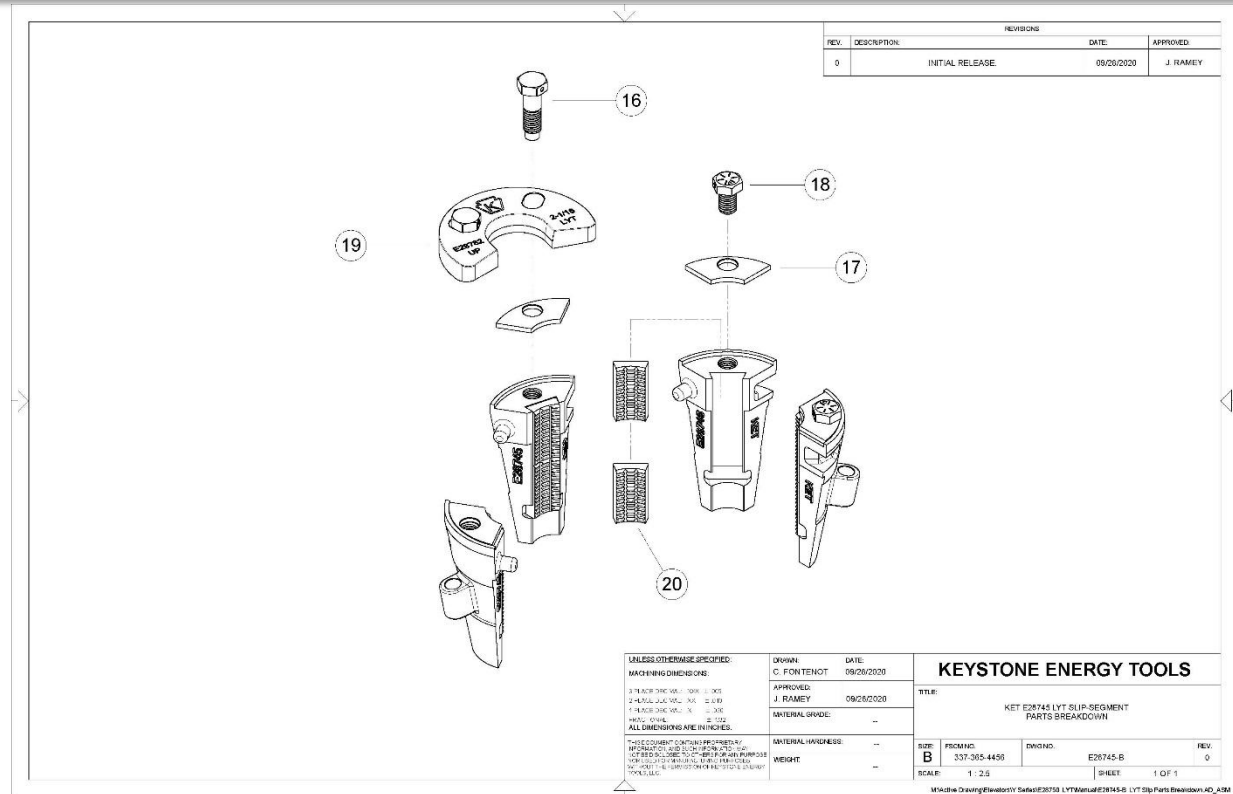
502" - 504"

504" - 506"

506" - 508"

508" - 510"

8.0 LYT Slip Replacement Parts



MYT REPLACEMENT PARTS

ITEM	QTY	PART NO.	DESCRIPTION
10	4	E29344	INSERT RETAINER PLATE
11	2	E29347	SETTING RING BOLT
16	2	E939098-15	INSERT RETAINER SCREW
18	2	E939370-13	SETTING RING WASHER
22	1	See chart	SETTING PLATE
23	8	INSERTS	INSERTS SEE CHART

MYT INSERTS

ITEM	QTY	PART NO.	DESCRIPTION
23	8	E24773	2-7/8" X 2-7/8" INSERT
23	8	E29255	2-7/8" X 2-3/8" INSERT
23	8	E29256	2-7/8" X 2-1/16" & 2" INSERT
23	8	E29257	2-7/8" X 1-1/2" (1.900") INSERT
23	8	E29258	2-7/8" X 1-1/4" (1.660") INSERT
23	8	E29259	2-7/8" X 1" (1.315") INSERT
23	8	E29259-1	2-7/8" X 3/4" (1.050") INSERT

Keystone ENERGY TOOLS

9.0 LYT Wear Data

PART NUMBER	E28750
RATED CAPACITY	20 TON

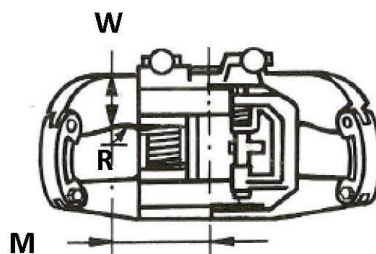
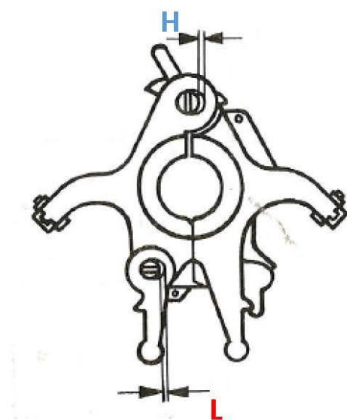
STANDARD PINS

HINGE PIN PART #	E28753
TOTAL CLEARANCE(H)	0.025
HINGE PIN MIN. DIA. NEW	1.059
BORE DIA.MAX. NEW	1.070
BORE DIA.MAX.WORN	1.081

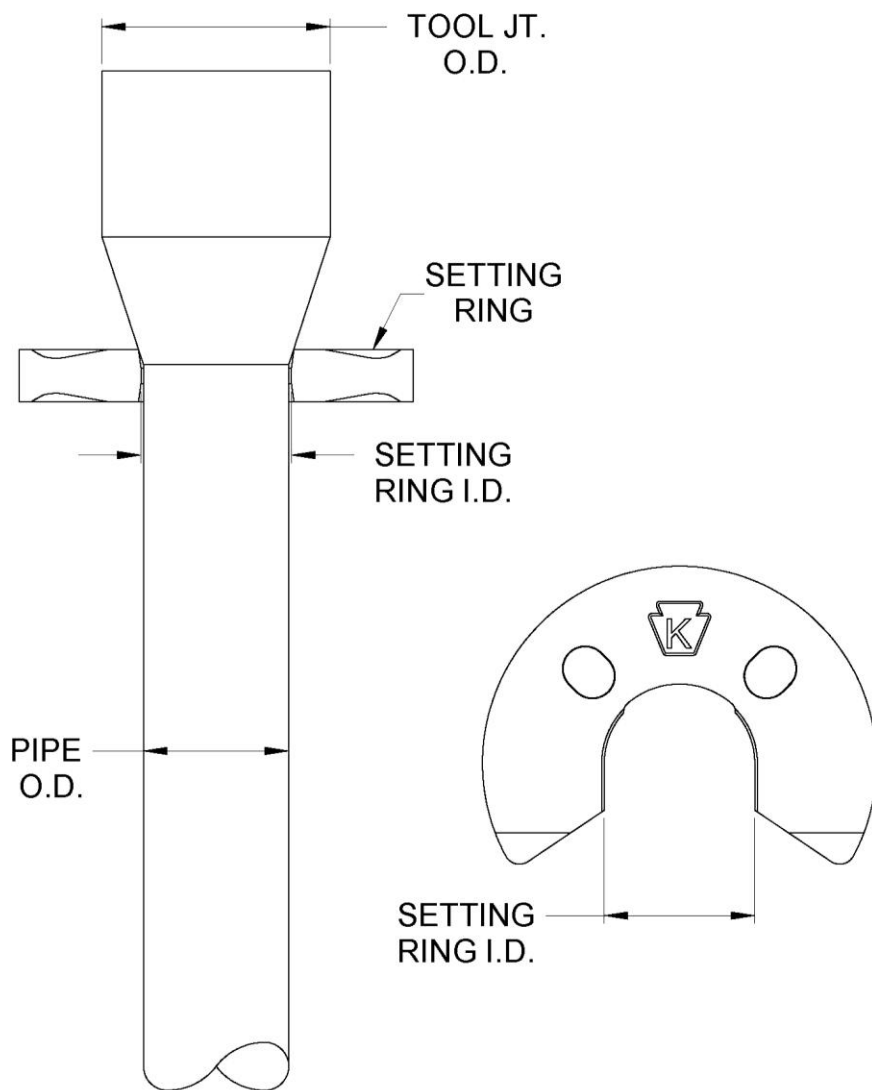
LATCH PIN PART #	E28757
TOTAL CLEARANCE(L)	0.025
LATCH PIN MIN. DIA. NEW	0.622
BORE DIA.MAX.NEW	0.632
BORE DIA.MAX.WORN	0.646

LIFTING EARS

DIMENSION (W) MIN	1.500
RADIUS -R	1.250
DIMENSION (M)	4.060



10.0 Setting Plate Wear Data



TOOL JOINT O.D -.250 " = MAX SETTING RING I.D

***Note:** After every job, a full NDT inspection of the setting plate should be completed. If any indications are found the setting plate is no longer acceptable for continued use.

11.0 Reception, Storage, Transport & Decommissioning

Reception

Check the tool immediately after reception and re-preserve the tool as required (try to have this completed withing 1 month).

Any exposed or non painted metal surfaces should be coated with a rust preventative to prevent any corrosion build up.

Storage

The tool should be stored or palletized in a clean and dry place to avoid all environmental elements. It is recommended to store in an indoor environment of 60 – 70 Deg F with max humidity of 80%. If the tool is to be stored outdoor, then a cargo container would be appropriate to ensure the tool is not exposed to weather conditions.

Preserve the tool by greasing all areas defined in the maintenance requirements per the manual.

During storage, the tool shall still be inspected annually per inspection requirements in the user's manual.

Transport

When lifting the tool do so only by using its lifting ears only. The best way of transporting the tool is in its original palletized state. Ensure the tool is banded down accordingly to prevent the possibility of potential dropped objects and broken shipments.

Decommissioning

The tool may contain grease, steel, rubbers, plastic, stainless steel, mild steel and several assembled components with undefined consistency or mixtures. The tool can be contaminated with drilling fluids, hydraulic fluids and preservatives. After the tool is decommissioned, it is recommended to disassemble the tool in a place where waste fluids can be contained and properly disposed of.

⚠WARNING: any fluids, mud, or grease are potentially unsafe when in contact with the skin. Always wear gloves and safety goggles when disassembling the tool.

1. Clean the tool with a steam cleaner.
2. It is recommended to disassemble the tool in a place where drainage for waste fluids is possible.

CERTIFICATE OF WARRANTY AND GUARANTEE OF QUALITY

KET warrants all materials and products manufactured to be free from defects in material and workmanship, under normal use and service, when installed, used, and serviced in the manner provided and intended by the seller for a period of twelve (12) months after delivery. Seller's obligation under this warranty is expressly limited to repair or replacement, at its option, of any materials or products, returned to the seller's plant in New Iberia, Louisiana and which are determined by the seller to be defective. All freight charges for return and reshipment shall be paid by the customer. A new warranty period shall not be established for repaired or replaced material or products; such items shall remain under warranty only for the remainder of the warranty period on the original materials or products. This is the sole warranty of the seller and no other warranty is either expressed or implied, in fact or by law, including any warranty as to the merchantability or fitness for a particular use or purpose.

In case of goods or parts not wholly of seller's manufacture, seller shall make available to the customer whatever warranty or guarantee is extended to seller for such goods or parts by the supplier or manufacturer thereof.

Seller will not assume responsibility or liability for any repairs, rebuilding, welding or heat treating done to its material or products outside of seller's plant, such work shall void all warranties. All parts used in the manufacture and /or final assembly of seller's materials or products are necessary for both safety and operational performance. Omission of any part or failure to replace any worn part may result in the malfunction and a consequent safety hazard for which seller disclaims any responsibility or liability for injuries or damage as a result thereof.

Buyer's sole and only remedy in regard to any defective materials or products shall be the repair or replacement thereof as herein provided, and seller shall not be liable for any consequential, special, incidental or punitive damages resulting from or caused by any defective materials, products or supplies.



For more information, please contact us at:

Keystone Energy Tools

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Broussard, LA 70518

www.k-e-t.com

Office: 1-337-365-4411

Fax: 1-337-365-4456

Revision History

Rev	Date	Changes	By
0	08/29/2021	Updated format/added rev history	Cody H.
01	03/10/2022	Added page 11 figure 2 (wire tie illustration)	Cody H.
02	07/19/2022	Updated address	Cody H.
03	04/08/2024	Added warning about shock label	Cody H.
04	02/05/2026	Added NOTE-Load rating determined by Elevator body not slip	Cody H.
05	07/10/2026	Added a new Figure 2 and Setting Plate movement illustration & instructions	Cody H.
06	08/06/2026	Added range of min 18 ft-lb & max of 20 ft-lb for setting plate bolt torque values	Cody H.
07	08/14/2026	Updated safety wire size from 3/32" to .032"	Cody H.