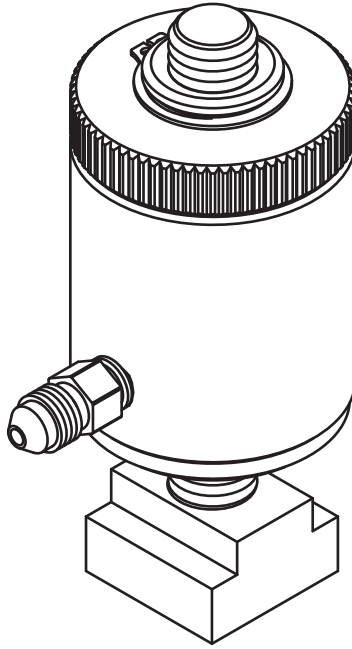


MODEL 205L HYDRAULIC CLAMP



The Model-205L Clamp generates 8,000 of clamping force at 5,000 psi. It is used with dies having slotted underplates, "ears" or "pockets" in line with T-Slots. The clamp is hydraulically actuated and usually mechanically locked during stamping operations.



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WARNING

USE SAFETY GEAR AT ALL TIMES – SYSTEM MAY EJECT HYDRAULIC FLUID AT ANY TIME.
Read this complete User Guide and study Drawings 205L and 205LPD before proceeding.

Hydraulic plumbing on press/machine depends on the type of clamps used, hydraulic clamping safety employed and other devices, which are connected to the system. Determination of application Safety and Safe Operation is the user’s responsibility.

INSTALLATION

1. Place T-Nut in T-Slot and make sure that the T-Nut is sized correctly.
2. Verify that the stud length is correct.
3. Rotate the stud so that the proper die grip height is achieved. The stud must be fully engaged in the clamp.

Study DWG-205L attached carefully. Make sure that the die grip height for the various dies are within the dimensions noted on DWG-205L.
4. Place the clamp in the T-Slot and connect hydraulic hose. Note that the hydraulic hose will prevent the clamp from rotating. (If the clamp is rotated then the clamping height is changed).

OPERATION

Note: Integrate the following steps into your die exchange procedure.

1. **TO INSTALL DIE.** Connect Hydraulic Power Supply (HC) to system if using a Carriable/Removable Pump Controller.
2. Activate Lift of Die Lifters (if any), Place die in press, and lower die lifters (if any).
3. Move bolster mounted clamps to proper clamping position and activate the proper hydraulic circuit to clamp lower clamps.
4. Make required adjustments and move slide down to upper die.
5. Move ram mounted clamps to proper clamping position and activate the proper hydraulic circuit to clamp upper clamps.
6. Set all mechanical locks (upper and lower) by rotating the lock nuts (item 12 on Drawing 205LPD) manually until they are firmly in contact with the clamp housing. Clamps are now mechanically locked in the clamp position.
7. Deactivate hydraulics, Confirm clamps remain clamped and Locked, and Disconnect Hydraulic Power Supply (HC) if using Carriable/Removable Pump Controller (if desired).
8. **TO REMOVE DIE,** Move slide to proper down position for die exchange.
9. Connect Hydraulic Power Supply (HC) to system. Apply Hydraulic Clamp pressure to all clamps.
10. Press Hydraulic Booster Button (HM) to boost pressure above initial clamp pressure to loosen Nuts.
11. Turn Lock Nuts away from clamp housing.
12. Release hydraulic pressure to all clamps to allow clamps to open.
13. Move clamps away from die.
14. Jog ram up.
15. Activate die lifters, if any, to lift die.
16. Perform die exchange.

CAUTION: Use only dies with U slots, Aears® or pockets, i.e., clamping surfaces which support the clamp on opposite sides of the stud. Make sure that the clamp surface thickness die grip height is within the range of the clamp.

MAINTENANCE

1. Periodically check hoses for signs of wear.
2. Replace hoses if necessary.
3. Examine clamp for damage.
4. Check mechanical locking nuts for ease of operation.
5. Chase any damaged threads if necessary.
6. Check for hydraulic leaks. Tighten fittings or replace hoses as necessary.
7. See enclosed for seal replacement procedures.
8. If a pipe thread fitting is removed, apply new thread tape before reassembling fitting.
9. If stud is replaced, use grade B7 threaded Rod or Forged High Strength Alloy Steel with Minimum Tensile strength 125,000 psi or grade 8 or similar. PFA replacement parts are recommended for proper operation.
10. If T-nut is replaced make sure that it is securely fastened to the stud. Apply permanent thread locking compound IAW manufacturer's recommendations.

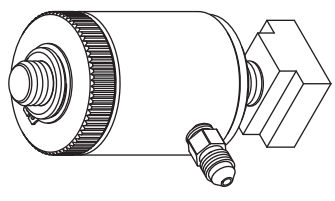
SEAL REPLACEMENT PROCEDURE

1. Obtain copy of drawing 205LPD, copy attached. Note position of all components.
2. If seals are to be replaced obtain the two seals and lubricant specified on drawing 205LPD.
3. If Connector, P/N 1804-1 is removed, apply teflon thread tape before re-installation. Apply proper pipe fitting torque.
4. To disassemble clamp start by removing spiral retaining ring P/N RG00031 and locking nut P/N 2906. Then remove retainer P/N 2903.
5. Separate the piston from the housing. Place the clamp housing in a soft jaws vise and pull the piston out. (Thread a stud into the piston and pull the assembly out).
6. Remove spring as shown in drawing 205LPD.
7. Remove the two seals and discard.
8. Clean parts if required.
9. Apply magna-lube in seal (O'ring) grooves and on the seals.
10. Carefully install seals on piston as shown on drawing 205LPD. The seals must be oriented as shown.
11. Carefully insert piston into clamp housing. Be careful to avoid seal damage.
12. Install spring and retainer as shown in drawing 205LPD.
13. Install locking nut and spiral retaining ring.
15. Apply hydraulic pressure and check for leaks.

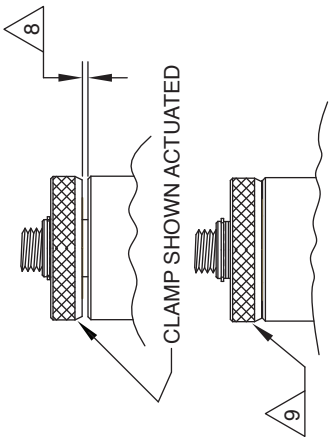
RECOMMENDED SPARE PARTS

Please refer to parts contained in Seal Replacement Kit 205LPD-SEAL and Refurbish Kit Part #205LPD-RFB as shown on DWG 205LPD.

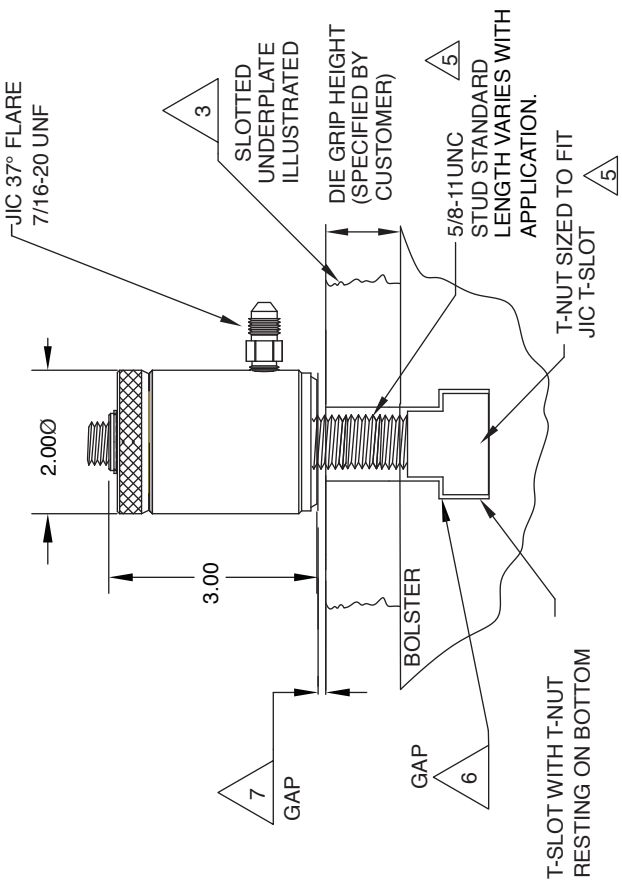
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MODEL-205L



CLAMP SHOWN ACTUATED



T-SLOT WITH T-NUT RESTING ON BOTTOM

- 9 AFTER CLAMP ACTUATION THE MECHANICAL LOCK MUST BE FIRMLY HAND TIGHTENED (NO WRENCHES) AGAINST THE CLAMP BODY. THE HYDRAULIC PRESSURE CAN THEN BE DISCONNECTED. THE HYDRAULIC PRESSURE MUST BE APPLIED IN ORDER TO OPEN THE MECHANICAL LOCK.
- 8 THIS DIMENSION (THE MECHANICAL LOCK WAS TOUCHING THE CLAMP BODY AT THE TIME OF ACTUATION) SHOWS THE AMOUNT OF PISTON TRAVEL WHICH WAS NECESSARY TO PRELOAD THE STUD TO 8,000 LBS
- 7 ALWAYS KEEP THE GAP BETWEEN THE DIE AND THE CLAMP BODY TO A MINIMUM. (IF NECESSARY REMOVE THE CLAMP FROM THE T-SLOT AND SCREW THE STUD INTO THE CLAMP FOR A CLOSE FIT.) THE CLAMP STROKE WHICH IS .25 MUST BE SUFFICIENT TO CLOSE THE GAP 6 AND 7 AND PRE-LOAD THE STUD TO 8,000 LBS CLAMPING FORCE.
- 6 THE T-NUT SHOULD BE SIZED TO MINIMIZE THIS GAP YET ALLOW THE CLAMP TO MOVE FREELY IN THE T-SLOT.
- 5 T-SLOT SIZE AND DIE GRIP HEIGHT ARE USED TO SELECT T-NUT AND STUD LENGTH.
- 4 AVAILABLE WITHOUT MECHANICAL LOCK. (MODEL-205)
- 3 USE WITH DIES HAVING 'EARS', 'POCKETS' OR SLOTTED UNDERPLATES.
- 2 CLAMPING FORCE: 8,000 LBS @ 5000 PSI
- 1 THE MODEL-205L IS A HYDRAULIC NUT STYLE CLAMP WITH A MECHANICAL LOCK WHICH OPERATES AT 5000 PSI MAXIMUM HYDRAULIC PRESSURE.

NOTES: UNLESS OTHERWISE SPECIFIED.



205L HYDRAULIC CLAMP-LOCKING

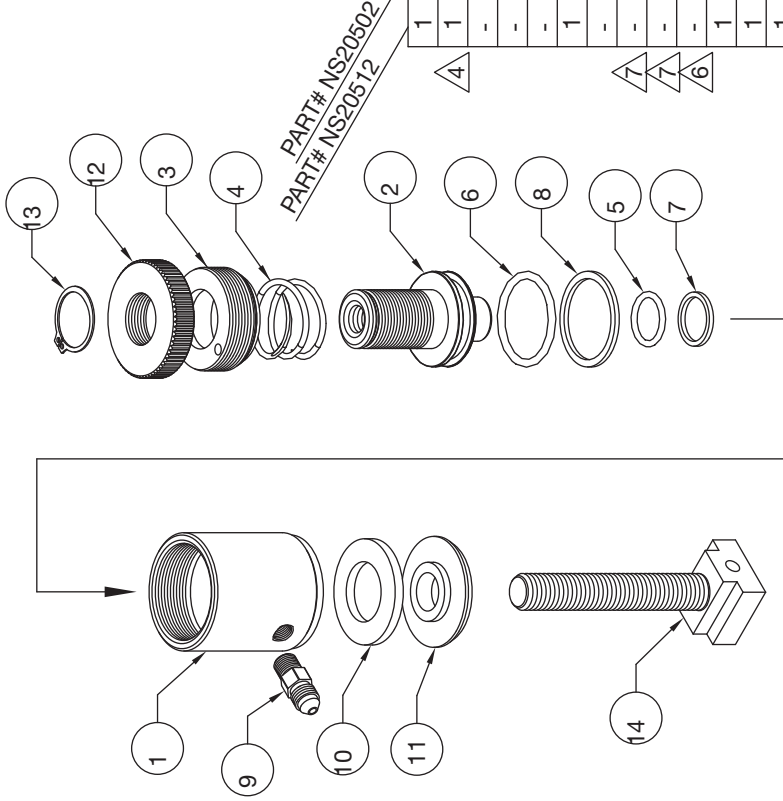
ITEM 205L

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NOTES CONTINUED:

- 7. ITEM 10 AND 11 ARE PERMANENTLY ATTACHED TO ITEM 1. DO NOT ATTEMPT TO REMOVE.
- 6. APPLY NEW THREAD TAPE TO ITEM 9 IF IT IS REMOVED FROM CLAMP BODY.
- 5. APPLY BREAKABLE THREAD LOCKING COMPOUND TO ITEM 3 WHEN REASSEMBLING CLAMP.

REF	SEA	REF	REF	REF	PART NUMBER	DESCRIPTION	ITEM
1	1	1	1	1	205LUG	USER GUIDE	18
1	1	-	1	-	ZZ36120	MAGNALUBE, TUBE (NOT SHOWN)	17
-	-	-	1	-	2907-2	LABEL, LOCK-UNLOCK (NOT SHOWN)	16
-	-	-	1	-	1075	LABEL, PFA (NOT SHOWN)	15
-	-	-	1	-	3833	T-NUT/STUD ASSEMBLY 5/8"-11	14
1	-	1	1	1	1841-16 RG00031	RING, RETAINING	13
-	-	-	1	-	2906	NUT, LOCKING	12
-	-	-	1	-	2905 NK00036	RETAINER, SPRING	11
-	-	-	1	-	1756	SPRING, BELLEVILLE	10
-	-	-	1	-	1804-1	FITTING, 37° x 1/8	9
1	1	1	1	1	1781-116 PI82116	RING, BACKUP	8
1	1	1	1	1	1781-220 PI82220	RING, BACKUP	7
1	1	1	1	1	1772-116 PI21116	O-RING	6
1	1	1	1	1	1772-220 PI21220	O-RING	5
1	-	-	1	-	2882 RG00050	SPRING	4
-	-	-	1	-	2903	NUT RETAINER	3
-	-	-	1	-	2902	PISTON	2
-	-	-	1	-	2901	HOUSING, HYDRAULIC NUT	1

- 4. APPLY MAGNA-LUBE 'G' TO SEALS AND MOVING PARTS WHEN ASSEMBLING.
- 3. THIS COLUMN SHOWS PARTS INCLUDED IN REFURBISH KIT (PART# 205LPD-RFB)
- 2. THIS COLUMN SHOWS PARTS INCLUDED IN SEAL KIT (PART# 205LPD-SEAL)
- 1. THIS COLUMN SHOWS PARTS INCLUDED IN BASIC MODEL-205L CLAMP (REFERENCE ONLY).



205LPD HYDRAULIC CLAMP-LOCKING

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