

RED HEAD BRASS, LLC.
THE BRUTE X-PANDER
HAND HYDRAULIC
PORTABLE HOSE EXPANDER
FOR 1" THRU 3" COUPLINGS
INSTRUCTION MANUAL

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INDEX

PAGE

- 1- SPECIFICATIONS, INSTALLATION, MAINTENANCE
- 2- CAUTION
- 3- SET UP PROCEDURE FOR EXPANSION UNITS
- 4- EXPANSION UNIT IDENTIFICATION
- 5- SET UP PROCEDURE FOR ADJUSTING COLLAR
- 6- EXPANDING HOSE AND RING INTO COUPLING
- 7- EXAMPLE # 1
- 8- EXAMPLE # 2
- 9- CAUTION, DO'S AND DON'TS RECAP
- 10- SUGGESTED EXPANSION PRESSURE

SPECIFICATIONS

1. 13" WID X 17" DEEP X 10" HIGH
2. WEIGHT 45#
3. HANDLE LENGTH 20"

INSTALLATION

1. PLACE YOUR BRUTE ON A STABLE SURFACE AT A LOCATION AND HEIGHT FOR CONVENIENT OPERATION

MAINTENANCE

1. YOUR BRUTE SHOULD NOT NEED TO BE SERVICED
2. BE SURE TO LUBRICATE THE DRAWBAR
3. OCCASIONALLY OIL MOVING PARTS ON HANDLE
4. IF YOU SHOULD EVER NEED TO ADD FLUID, USE ONLY MYSTIK HYDRAULIC JACK OIL, REMOVE RIGHT FRONT FILL PLUG, FILL AND REPLACE AND TIGHTEN PLUG

CAUTION

1. Before attempting to couple hose, read the instruction manual thoroughly.
2. Never expand the segments completely out without an expansion ring or coupling mounted. This will result in breakage or deforming of drawbars, segments or segment holder.
3. Lubricate the drawbar and eyelets of segments with chain oil or light oil. Excessive wear or grooves will occur if operated dry.
4. The cylinder adapter (Item 8) is not permanently attached to the cylinder this is done so if the thread gets damaged, it can be repaired. Please note when changing expansion units, if this part comes off with the unit you are removing you can do one of two things. First, unscrew it from the expansion unit and assemble it back on the unit you are attaching to the Brute, or set the lever on release and pump handle until cylinder is fully out towards you and then assemble male end of the cylinder adapter into cylinder rod female.

MAXIMUM PRESSURES OF EXPANSION UNITS

1" UNIT – AT MORE THAN 2000# MAY RESULT IN BREAKAGE

1 ½" UNIT – AT MORE THAN 2600# MAY RESULT IN BREAKAGE

1 ¾" UNIT – AT MORE THAN 2600# MAY RESULT IN BREAKAGE

2" UNIT – AT MORE THAN 2800# MAY RESULT IN BREAKAGE

2 ½" UNIT – AT MORE THAN 3200# MAY RESULT IN BREAKAGE

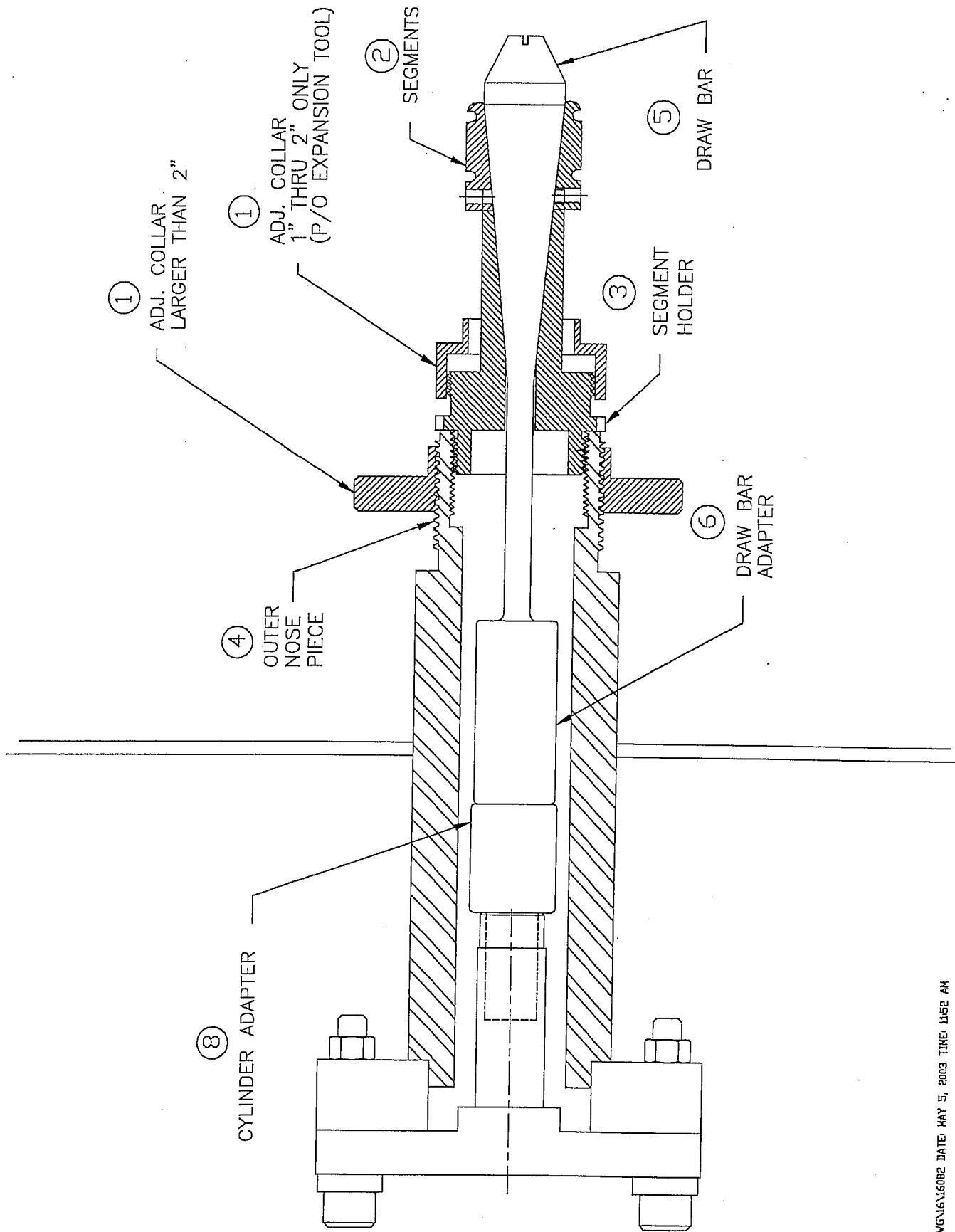
3" X 2 ½" UNIT – AT MORE THAN 3800# MAY RESULT IN BREAKAGE

SET-UP PROCEDURE FOR EXPANSION UNIT

1. Select the proper expansion unit for the size and type of coupling to be installed. Each size and type of coupling requires differed expansion units.

Note: When this procedure calls for expand, we mean that the drawbar (Item 5) is drawn inward or away from you. This expands the segments (Item 2), which increases the diameter of the copper ring into the hose. Release refers to the drawbar coming out towards you, which collapses the segments.

2. Firmly screw the selected expansion unit clockwise into the outer nosepiece (Item 4) and the drawbar adapter (Item 6) into the cylinder adapter (Item 8). Pump the handle in expand position if needed, to completely assemble.



SET-UP PROCEDURE FOR THE ADJUSTING COLLAR

1. Screw the adjusting collar (Item 1) clockwise as far as it will go.
2. Remove the tail gasket from the hose bowl of the coupling and position the coupling over the segments and segment holder. (Threads first on both male and female) until the face of the coupling touches the adjusting collar. You will note the adjusting collar is designed to allow for the different lengths between male and female.
3. With the lever in expand position pump handle until the segments are larger than the waterway, but not touching the serrations in the coupling.
4. Pull the coupling back to you until the tail gasket wall or recess touches the expanded segment and hold firm.
5. Turn the adjusting collar counter-clockwise until it touches the face of the coupling, and then turn clockwise about half of the thickness of the tail gasket.
6. With the lever in release position, pump handle to return the unit to start position and the expansion ring and couplings fit over the segments. Put tail gasket back into coupling.
7. Be sure to lubricate drawbar occasionally.

EXPANDING HOSE AND RING INTO COUPLING

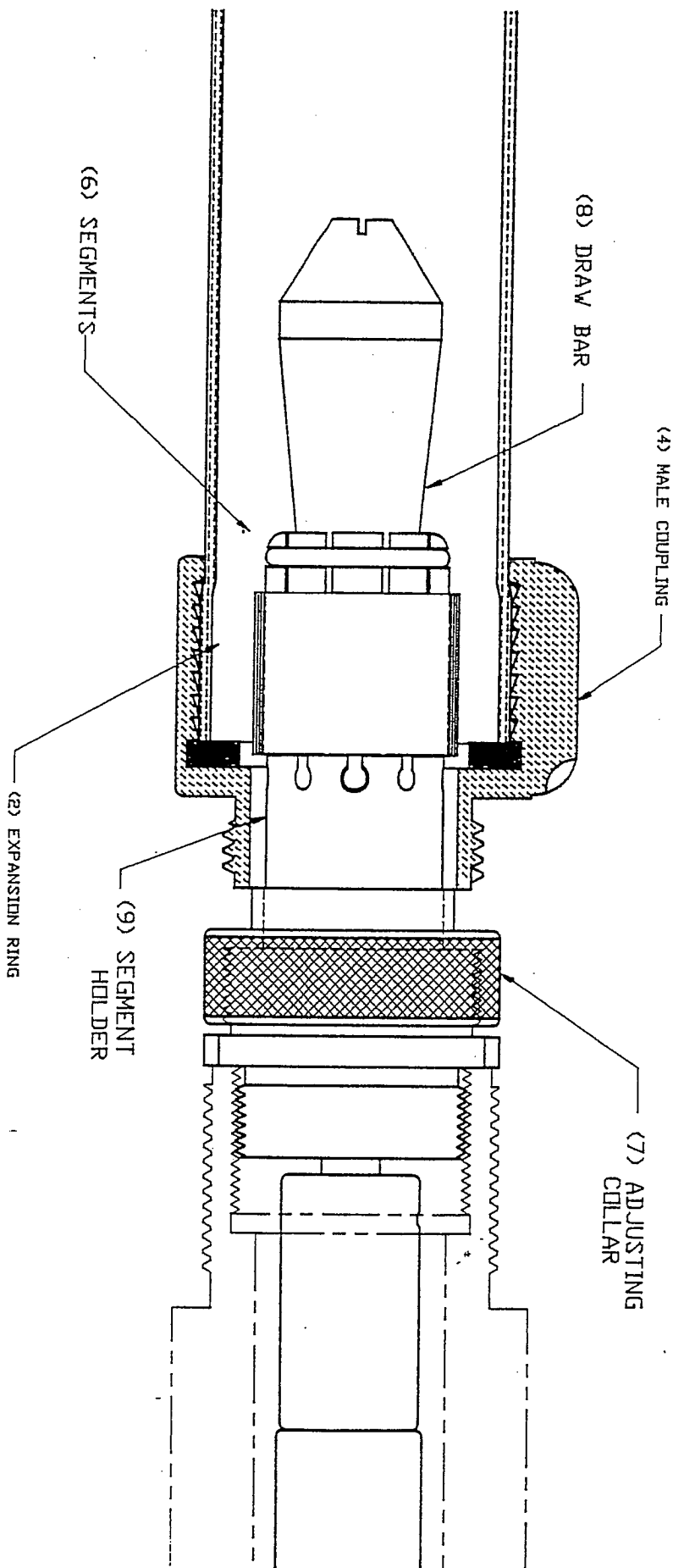
1. Cut the hose square.
2. Always use new tail gaskets and check if the thickness of the gasket (ID to OD) is approximately the same as the thickness of the hose (see example 1 & 2).
3. Insert tail gasket into recess and place copper ring over segments. Option: with lever on expand, pump handle just enough to hold ring in place. Be careful not to expand ring.
4. Insert hose into the hose bowl until it is flush against the tail gasket. Then place coupling/hose assembly over the segments and hold firmly against the adjusting collar (Item 1). With lever in expand mode pump handle until the couplings cannot be turned or approximately 800-1000# on gauge. Move lever to release mode and pump handle until you hear/feel a pop to relieve the pressure, then wait a few moments until the gauge retracts down below 200#. Pump until you can remove and check for proper position of ring and gasket, you should only have to do this on first coupling.
5. If the ring position is correct, put assembly in place and hold firm. Put lever in expand mode and pump to desired pressure. Move lever to release and pump enough to turn coupling on segment, turn lever back to expand and pump back to desired pressure to assure full 360-degree expansion.
6. Mover lever to release mode and pump handle until you hear/feel a pop to relieve pressure, wait a few moments until the gauge retracts down zero. **This is not an automatic return**. Then pump the handle until the coupling comes off and segment collapse enough to start another assembly.

NOTE: DO NOT OVER PUMP IN RELEASE MODE OR YOU MAY DAMAGE MACHINE.

Note: When installing reducing couplings, 1 3/4" x 1 1/2"; 2" x 1 1/2"; 3" x 2 1/2" the ring must be placed in the hose instead of over the segments. Insert the expansion ring and hose into the serrated bowl of the coupling, and pull the ring into place with your finger or a hooked tool or wire. The ring should be against the back wall and inside of the tail gasket.

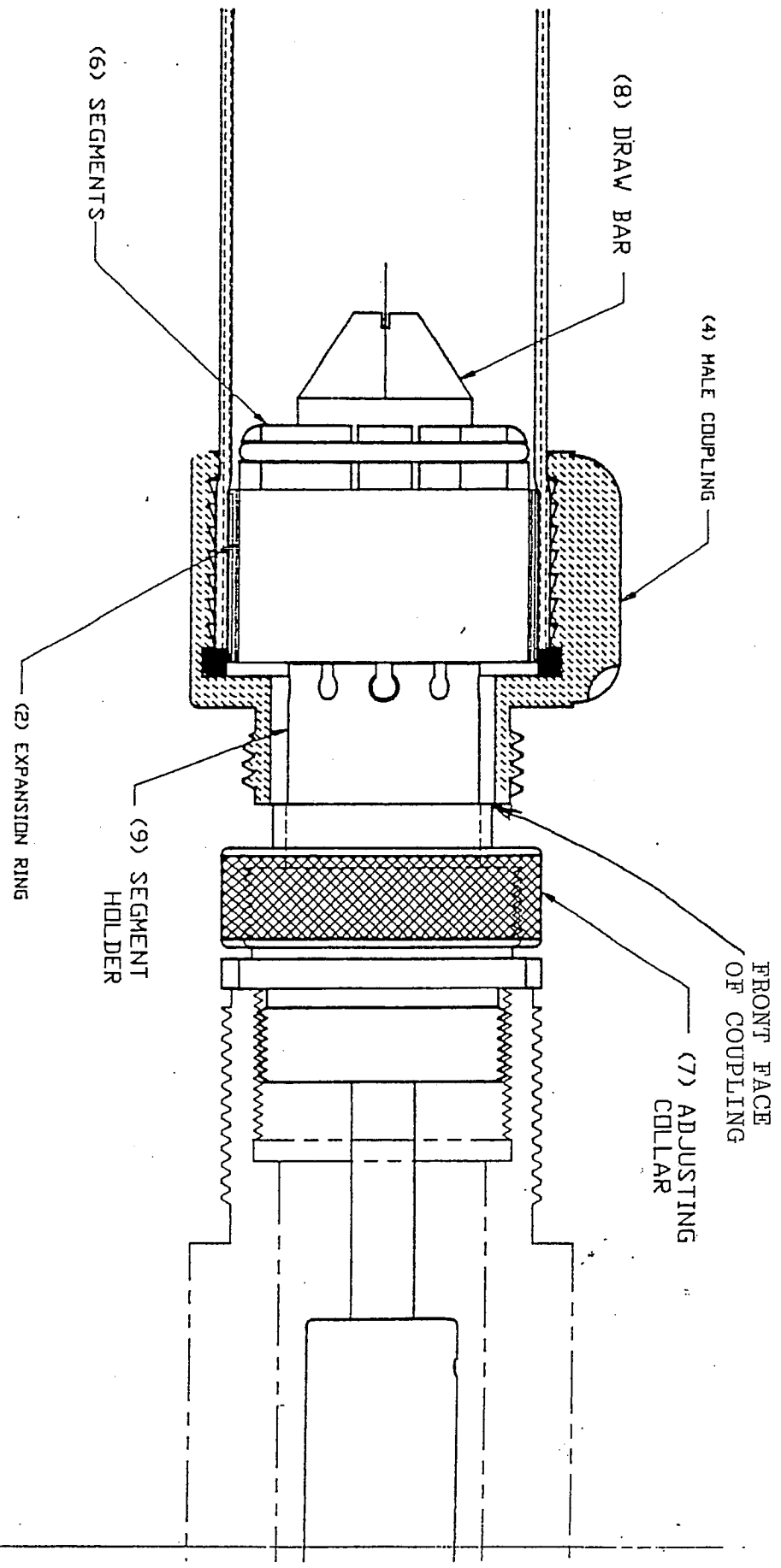
WRONG: TAIL GASKET TO THICK FOR HOSE
THE EXPANDER WILL APPLY
PRESET PRESSURE ON GASKET
AND VERY LITTLE ON THE RING
COUPLING WILL COME OFF

ENCLOSURE
WALL



EXAMPLE #1

CORRECT: HOSE & TAIL GASKET
APPROX SAME THICKNESS
EXPANSION RING SHOULD COVER
ABOUT HALF OR MORE OF TAIL GASKET



EXAMPLE #2

CAUTION, DO'S AND DON'TS RECAP

CAUTIONS

1. BEFORE STARTING TO COUPLE HOSE READ THE INSTRUCTION MANUAL THOROUGHLY.
2. NEVER GO THRU THE EXPAND CYCLE WITHOUT A COUPLING OR EXPANSION RING MOUNTED.
3. EACH SIZE HOSE AND TYPE OF COUPLING REQUIRES A DIFFERENT EXPANSION UNIT, WHICH RED HEAD STOCKS.
4. WHEN EXPANDING DOUBLE JACKET HOSE, BE SURE INNER JACKET DOES NOT MOVE.

DO'S

1. LUBRICATE DRAWBAR OFTEN.
2. CHECK SIZE AND DIAMETER OF HOSE AND USE COUPLING OF SAME BOWL SIZE. HOSE MUST BE SNUG IN COUPLING.
3. THE TAIL GASKET MUST BE NEW AND THE SAME THICKNESS AS THE HOSE. (SEE EXAMPLE 1 & 2).
4. CUT THE HOSE SQUARE.
5. IF THE EXPANSION RING DOES NOT GO OVER SEGMENTS, CHECK SEGMENTS FOR BURRS. DEBURR BY SANDING BOTH FLAT SIDES OF EACH SEGMENT WITH FLAT SIDE OF A FILE. ALSO, CHECK COPPER RING FOR I.D. BURRS.

DON'TS

1. DO NOT OVER TIGHTEN EXPANSION UNITS ON NOSEPIECE.
2. DO NOT USE LUBRICATION ON HOSE.

SUGGESTED EXPANSION PRESSURES

| <u>SIZE</u> | <u>MATERIAL</u> | <u>POUNDS PRESSURE</u> |
|-------------|-----------------|------------------------|
| 1" | ALUMINUM | 1000 – 1600 |
| 1 ½" | BRASS | 1400 – 2000 |
| 1 ½" | ALUMINUM | 1600 – 2200 |
| 1 ¾" | BRASS | 1400 – 2000 |
| 1 ¾" | ALUMINUM | 1600 – 2200 |
| 2" | BRASS | 1600 – 2200 |
| 2" | ALUMINUM | 1800 – 2400 |
| 2 ½" | BRASS | 1800 – 2400 |
| 2 ½" | ALUMINUM | 2400 – 2800 |
| 3" X 2 ½" | ALUMINUM | 2600 – 3200 |
| 3" | ALUMINUM | 2800 – 3400 |

THESE ARE SUGGESTED PRESSURES ONLY. DIFFERENT TYPES OF NEW OR USED HOSE AND COUPLINGS MAY REQUIRE ADJUSTMENTS.

CAUTION

Red Head recommends that all hose assemblies, after being coupled, be hydrostatically tested prior to use – per NFPA 1961, 1962 or UL 19 latest editions, whichever is appropriate.