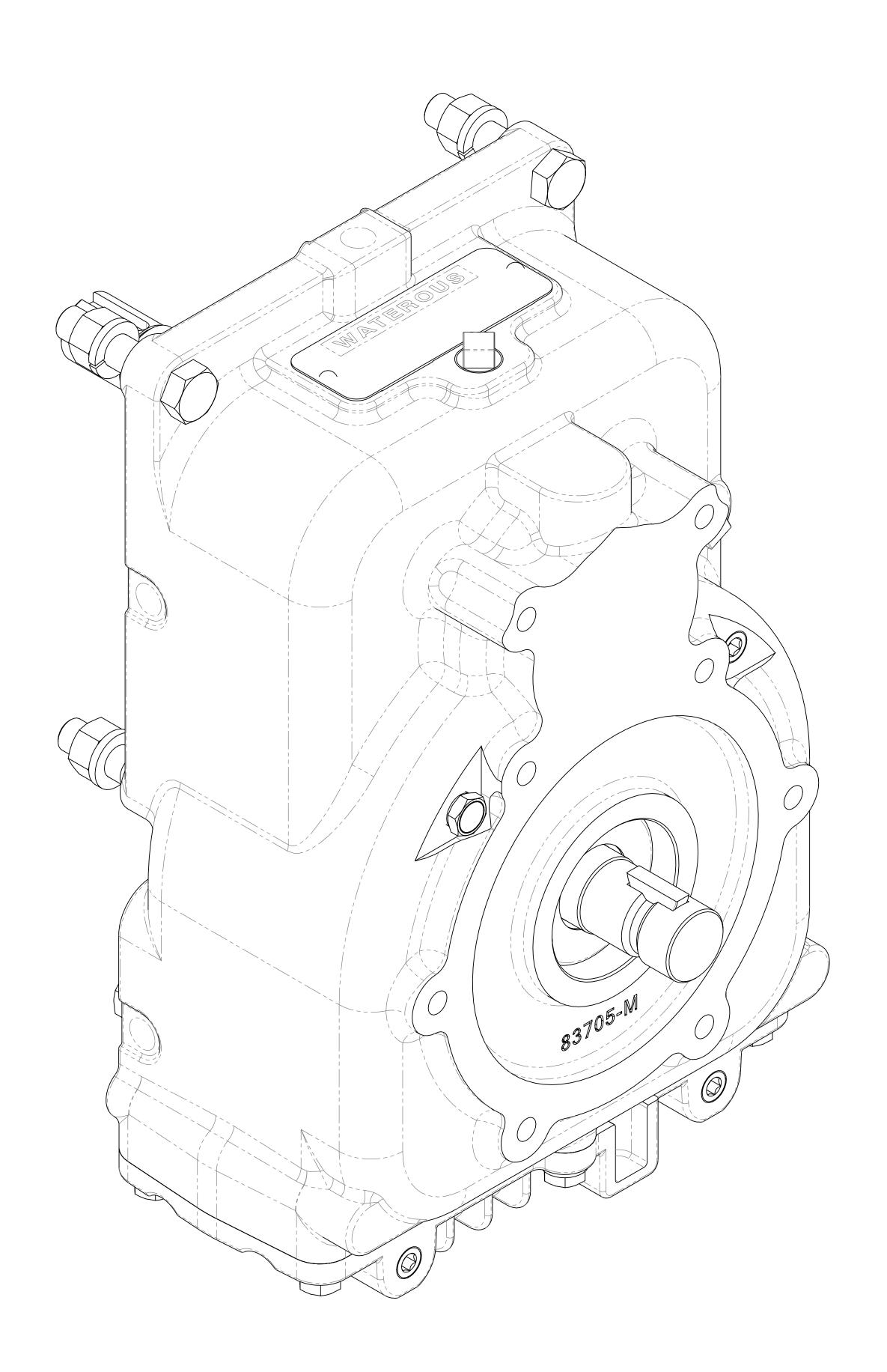
Document Number Issue Date Rev. Date 5/12/2020

## Medium Duty K Transmission Assy 83740

| Pump Model                            | Impeller Shaft<br>type | Extended Impeller<br>Shaft | Input Type                               | See Sheet |
|---------------------------------------|------------------------|----------------------------|--|-----------|
|                                       | One-Piece              | No                         | Standard 1-1/8in. Keyed                  | 2         |
| CP-2, CP-4,<br>CLR, CLV, CLS          |                        |                            | Hydraulic Flange Adapter                 | 3         |
| · · · · · · · · · · · · · · · · · · · |                        | Yes                        | Standard 1-1/8in. Keyed                  | 4         |
| CP-2<br>Combination<br>Pump           | One-Piece              | N/A                        | SAE Class C Spline and<br>Adatpter 72216 | 5         |
| CP-3                                  | Sonoroblo              | N/A                        | Standard 1-1/8in. Keyed                  | 6         |
| CP-3                                  | Separable              | IN/A                       | Hydraulic Flange Adapter                 | 7         |
|                                       | Oil                    | Cooler Fittings - CP-4     |  | 8         |
| Pump Mo                               | ounting Positions -    | Oil Level, Breather, Dr    | ain, and Vent locations                  | 9-10      |



| T1  | Gear-Driven  |   |  |
|-----|--|---|--|
| T2  | Gear-Drive   |   |  |
| T3  | Case-Transmission  |   |  |
| T4  | Pan-Oil, Cooler  |   |  |
| T5  | Housing-Bearing  |   |  |
| T6  | Cover-Bearing  |   |  |
|     |  |   |  |
| T7  | Gasket-Molded  |   |  |
| T8  | Shaft-Drive  Region Rell Single Row 20 x 72 x 10 mm  |   |  |
| T9  | Bearing, Ball, Single Row, 30 x 72 x 19 mm   | T24—  |  |
| T10 | Spacer-Bearing  O Ding 4 3/9 x 4 5/9 in  | Serial plate installed on pump volute body for CLR, CLV, & CLS pumps. |  |
| T11 | O-Ring, 4-3/8 x 4-5/8 in   | CLV, & CLS pumps.   |  |
| T12 | O-Ring, 3-1/4 x 3-1/2 in   |   |  |
| T13 | Seal-Oil, 1-3/16 x 2-7/16 in   | T41—  |  |
| T14 | Seal-Oil, 1-3/16 x 1-11/16 in  |   |  |
| T15 | Ring-Retaining, External, 1-3/16 in Shaft Dia  |   |  |
| T16 | Key-Woodruff, 5/16 x 1 in  |   |  |
| T17 | Washer-Plain, 3/4 in   | T29—  |  |
| T18 | Locknut-Flex Top, Thin, 3/4-16   | T20   |  |
| T19 | Key-Pinion Gear  | T30-  |  |
| T24 | Screw-Drive, #6 x 1/4 in   |   |  |
| T25 | Screw-Hex Hd, 3/8-16 x 1 in  | Apply Loctite #242  |  |
| T26 | Washer-Lock, 3/8 in  | Apply Loctite #242  |  |
| T27 | Screw-Hex Hd, 1/2-13 x 2-1/4 in  | Apply Loctite #242 (Blue) to threads. Torque to 100 lb-ft  T18        |  |
| T28 | Stud-Coarse, 1/2-13 x 2-1/4 in   | Torque to 100 lb-ft T18   |  |
| T29 | Washer-Lock, 1/2 in  | T10   |  |
| T30 | Nut-Hex, 1/2-13  | T16— ' ' /  |  |
| T41 | Plate-Serial   | T9—   |  |
| 34  | Plug-Pipe, Headless, 1/4 NPT   | T16—  |  |
|     | T11- T19- T14- T19- T19- T14- T19- T14- T19- T19- T14- T19- T19- T14- T19- T19- T19- T14- T19- T19- T19- T19- T19- T19- T19- T19 | T10                               |  |
|     | Impeller shaft shown for reference. See impeller shaft service parts list.   | T26 T25   |  |
|     |  |   |  |

| Ref No.    | Description  |   |
|------------|--|---|
| T1         | Gear-Driven  |   |
| T2         | Gear-Drive   |   |
| Т3         | Case-Transmission  |   |
| T4         | Pan-Oil, Cooler  |   |
| T5         | Housing-Bearing  |   |
| Т6         | Cover-Bearing  |   |
| T7         | Gasket-Molded  |   |
| Т8         | Shaft-Drive, Hydraulic   | T24—                                    |
| T9         | Bearing, Ball, Single Row, 30 x 72 x 19 mm   | T31—                                    |
| T10        | Spacer-Bearing   | Serial plate installed on T32—          |
| T11        | O-Ring, 4-3/8 x 4-5/8 in   | T41———————————————————————————————————— |
| T12        | O-Ring, 3-1/4 x 3-1/2 in   |   |
| T13        | Seal-Oil, 1-5/8 x 2-7/16 in  |   |
| T14        | Seal-Oil, 1-3/16 x 1-11/16 in  |   |
| T15        | Ring-Retaining, External, 1-3/16 in Shaft Dia  |   |
| T17        | Washer-Plain, 3/4 in   |   |
| T18        | Locknut-Flex Top, Thin, 3/4-16   |   |
| T19        | Key-Pinion Gear  | T48—                                    |
| T24        | Screw-Drive, #6 x 1/4 in   | -T27                                    |
| T25        | Screw-Drive, #6 x 1/4 iii  Screw-Hex Hd, 3/8-16 x 1 in                               | T29— T33                                |
| T26        |  |   |
| T27        | Washer-Lock, 3/8 in  |   |
|            | Screw-Hex Hd, 1/2-13 x 2-1/4 in  |   |
| T28        | Stud-Coarse, 1/2-13 x 2-1/4 in   | Apply Loctite #242                      |
| T29        | Washer-Lock, 1/2 in  | (Blue) to threads.                      |
| T30<br>T31 | Nut-Hex, 1/2-13  | Torque to 100 lb-ft— T18—               |
| T32        | Bushing-Adapter  Adapter-Case Gear, Class C, Hyd Motor                               |   |
| T33        | Screw-Cap, Hex Soc Hd, 7/16-14 x 1-1/4 in  | T17—                                    |
|            |  |   |
| T41<br>T48 | Plate-Serial Key-Square, 5/16 x 2-5/16 in  |   |
|            | T11  T19  Impeller shaft shown for reference. See impeller shaft service parts list. | T10 |
|            |  |   |

| 12     | Gear-Drive  |  |
|--------|---|--|
| T3     | Case-Transmission   |  |
| T4     | Pan-Oil, Cooler   |  |
| T5     | Housing-Bearing   |  |
| T6     | Cover-Bearing   |  |
| T7     | Gasket-Molded   |  |
| T8     | Shaft-Drive   |  |
| T9     | Bearing, Ball, Single Row, 30 x 72 x 19 mm                                    |  |
| T10    | Spacer-Bearing  | T24— Serial plate installed on   |
| T11    | O-Ring, 4-3/8 x 4-5/8 in  | Serial plate installed on pump volute body for CLR & CLV pumps.  |
| T12    | Gasket-Bearing, Cover   | & CLV pullips.   |
|        |   |  |
| T13    | Seal-Oil, 1-3/16 x 2-7/16 in  |  |
| T14    | Seal-Oil, 1-3/16 x 1-11/16 in   | T41  |
| T16    | Key-Woodruff, 5/16 x 1 in   |  |
| T19    | Key-Square, 1/4 x 1-1/2 in  | $\neg$   |
| T24    | Screw-Drive, #6 x 1/4 in  |  |
| T25    | Screw-Hex Hd, 3/8-16 x 1 in   | T29—   |
| T26    | Washer-Lock, 3/8 in   | T30—   |
| T27    | Screw-Hex Hd, 1/2-13 x 2-1/4 in   |  |
| T28    | Stud-Coarse, 1/2-13 x 2-1/4 in  | T13  |
| T29    | Washer-Lock, 1/2 in   | T13  |
| T30    | Nut-Hex, 1/2-13   |  |
| T35    | Spacer-Bearing  |  |
| T36    | Bearing, Spherical Roller, Single Row, 30 x 72 x 19 mm                        | T38—   |
| T37    | Seal-Oil, 1-1/16 x 2 in   | -78  |
| T38    | Nut-Lock, Bearing, N06  | T36— T39— \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \  |
| T39    | Washer-Lock, Bearing, W06   |  |
| T41    | Plate-Serial  | T35— T3  |
| T48    | Key-Square, 5/16 x 2-5/16 in  |  |
|        | T11- T5- T14- T19- Impeller shaft shown for refe See impeller shaft service p | T10 T10 T10 T10 T10 T10 T12 T128 T128 T128 T128 T129 T12 T12 T128 T128 T129 T129 T129 T129 T129 T129 T129 T129 |
| N<br>1 | lote:<br>. Belt and pulley may not have been furnished by Waterous            |  |
|        |   |  |

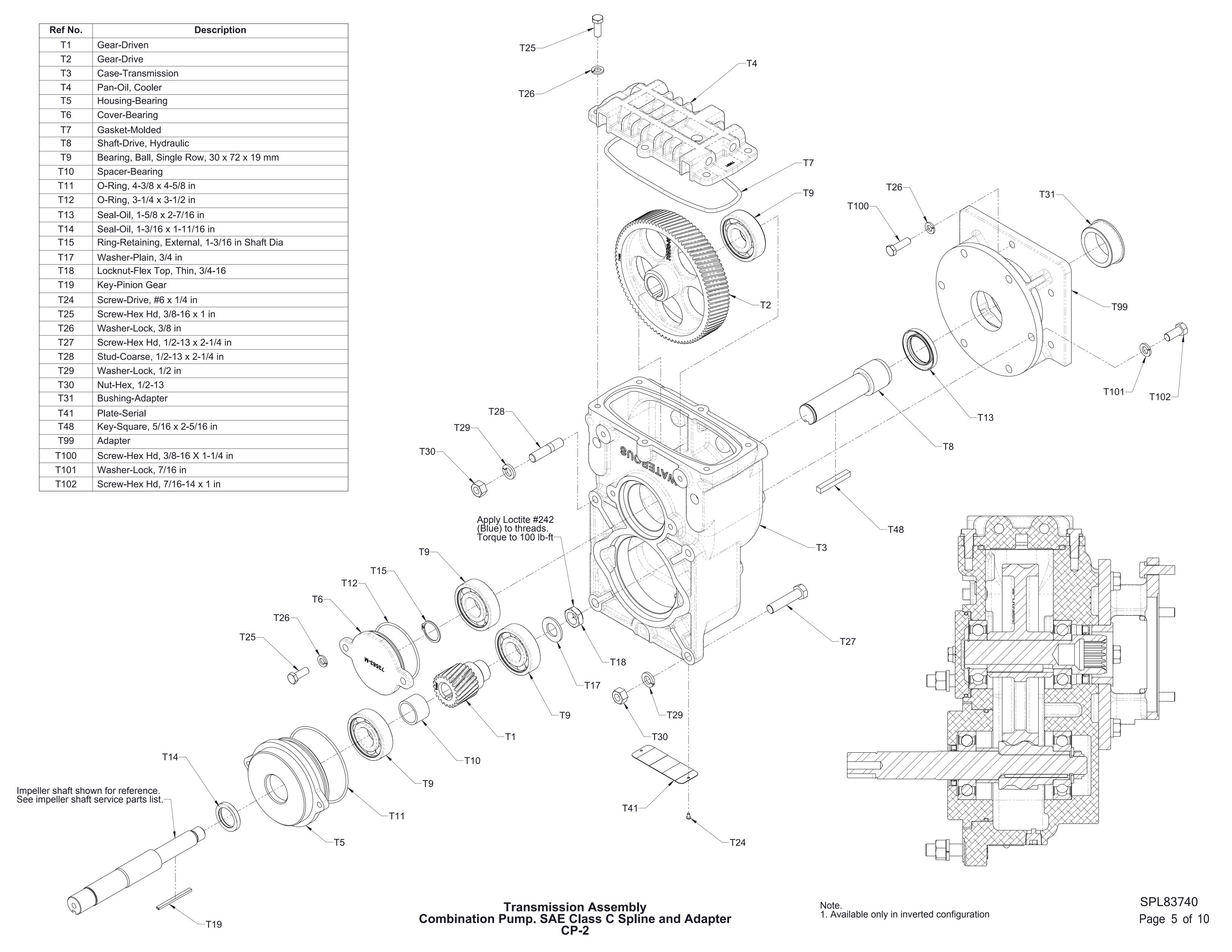
T1

Gear-Driven

Gear-Drive

Description

Transmission Assembly
One Piece Impeller Shaft with Extension, 1-1/8in. Keyed Input
CP-2, CLR, CLV



| ei NO.                                       | Description                                   |   |
|--|---|---|
| T1   | Gear-Driven                                   |   |
| T2   | Gear-Drive                                    |   |
| Т3   | Case-Transmission                             |   |
| T4   | Pan-Oil, Cooler                               |   |
| 5  | Housing-Bearing                               |   |
| 6  | Cover-Bearing                                 |   |
| 7  | Gasket-Molded                                 |   |
| 8  | Shaft-Drive                                   |   |
| 9  | Bearing, Ball, Single Row, 30 x 72 x 19 mm    | TQA   |
| 10   | Spacer-Bearing                                |   |
| 11   | O-Ring, 4-3/8 x 4-5/8 in                      |   |
| 12   | O-Ring, 3-1/4 x 3-1/2 in                      |   |
| 13   | Seal-Oil, 1-3/16 x 2-7/16 in                  |   |
| 4  | Seal-Oil, 1-1/2 x 2-1/2 in                    |   |
| 5  | Ring-Retaining, External, 1-3/16 in Shaft Dia |   |
| 6  | Key-Woodruff, 5/16 x 1 in                     |   |
| 7  | Washer-Plain, 3/4 in                          |   |
| 8  | Locknut-Flex Top, Thin, 3/4-16                | T29—  |
| 9  | Key-Pinion Gear                               |   |
| 4  | Screw-Drive, #6 x 1/4 in                      | T30—  |
| 5  | Screw-Hex Hd, 3/8-16 x 1 in                   |   |
| -<br>3                                       | Washer-Lock, 3/8 in                           |   |
| 27   | Screw-Hex Hd, 1/2-13 x 2-1/4 in               | Apply Loctite #242  |
| 28   | Stud-Coarse, 1/2-13 x 2-1/4 in                | Apply Loctite #242 (Blue) to threads. Torque to 100 lb-ft |
| )  | Washer-Lock, 1/2 in                           |   |
| )  | Nut-Hex, 1/2-13                               | T18   |
| <u> </u>                                     | Shaft-Driven                                  | T16— T17— \   |
| <u>.                                    </u> | Plate-Serial                                  |   |
| Т34—   | T11— T5— T14— T19— 3888-M                     | T10                   |
|  |   | T25  T26  T27  T27  T27                                   |

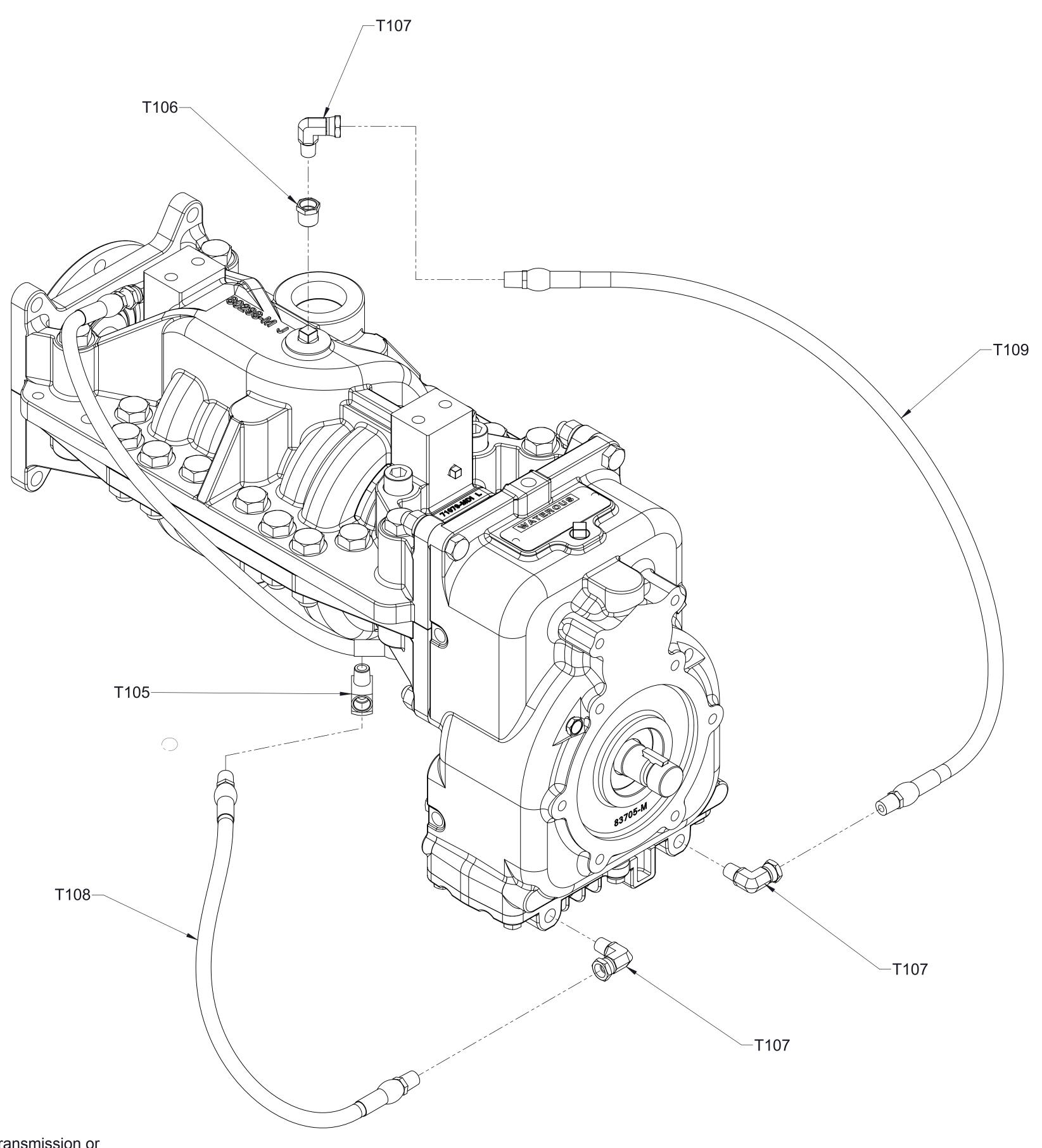
| 11  | Gear-Driveri                                  |  |      |
|-----|---|--|------|
| T2  | Gear-Drive                                    |  |      |
| Т3  | Case-Transmission                             |  |      |
| T4  | Pan-Oil, Cooler                               |  |      |
| T5  | Housing-Bearing                               |  |      |
| T6  | Cover-Bearing                                 |  |      |
| Т7  | Gasket-Molded                                 |  |      |
| T8  | Shaft-Drive, Hydraulic                        |  |      |
| T9  | Bearing, Ball, Single Row, 30 x 72 x 19 mm    | T24—   |      |
| T10 | Spacer-Bearing                                |  |      |
| T11 | O-Ring, 4-3/8 x 4-5/8 in                      | T41  |      |
| T12 | O-Ring, 3-1/4 x 3-1/2 in                      |  |      |
| T13 | Seal-Oil, 1-5/8 x 2-7/16 in                   |  |      |
| T14 | Seal-Oil, 1-1/2 x 2-1/2 in                    |  |      |
| T15 | Ring-Retaining, External, 1-3/16 in Shaft Dia |  |      |
| T17 | Washer-Plain, 3/4 in                          | T48—   |      |
| T18 | Locknut-Flex Top, Thin, 3/4-16                |  |      |
| T19 | Key-Pinion Gear                               | T29  |      |
| T24 | Screw-Drive, #6 x 1/4 in                      | T30—   | Too  |
| T25 | Screw-Hex Hd, 3/8-16 x 1 in                   |  |      |
| T26 | Washer-Lock, 3/8 in                           |  |      |
| T27 | Screw-Hex Hd, 1/2-13 x 2-1/4 in               | Apply Loctite #242   |      |
| T28 | Stud-Coarse, 1/2-13 x 2-1/4 in                | Apply Loctite #242 (Blue) to threads. Torque to 100 lb-ft— |      |
| T29 | Washer-Lock, 1/2 in                           |  |      |
| T30 | Nut-Hex, 1/2-13                               |  | _T13 |
| T31 | Bushing-Adapter                               | T17—   | 113  |
| T32 | Adapter-Case Gear, Class C, Hyd Motor         |  |      |
| T33 | Screw-Cap, Hex Soc Hd, 7/16-14 x 1-1/4 in     | T9—\\\   |      |
| T34 | Shaft-Driven                                  | T2   |      |
| T41 | Plate-Serial                                  |  |      |
| T48 | Key-Square, 5/16 x 2-5/16 in                  |  |      |
| T   | T11— T5— T14— T19— T38 <sub>86-M</sub>        | T10                    |      |
|     |   | T26  T26  T26  T77  T77  T74                               |      |
|     |   | T25  |      |

T1

Gear-Driven

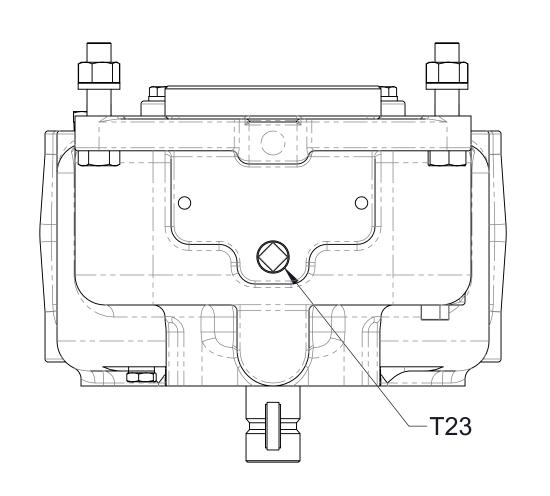
Transmission Assembly Separable Impeller Shaft, 1-1/8in. SAE Class C Hydraulic Adapter CP-3

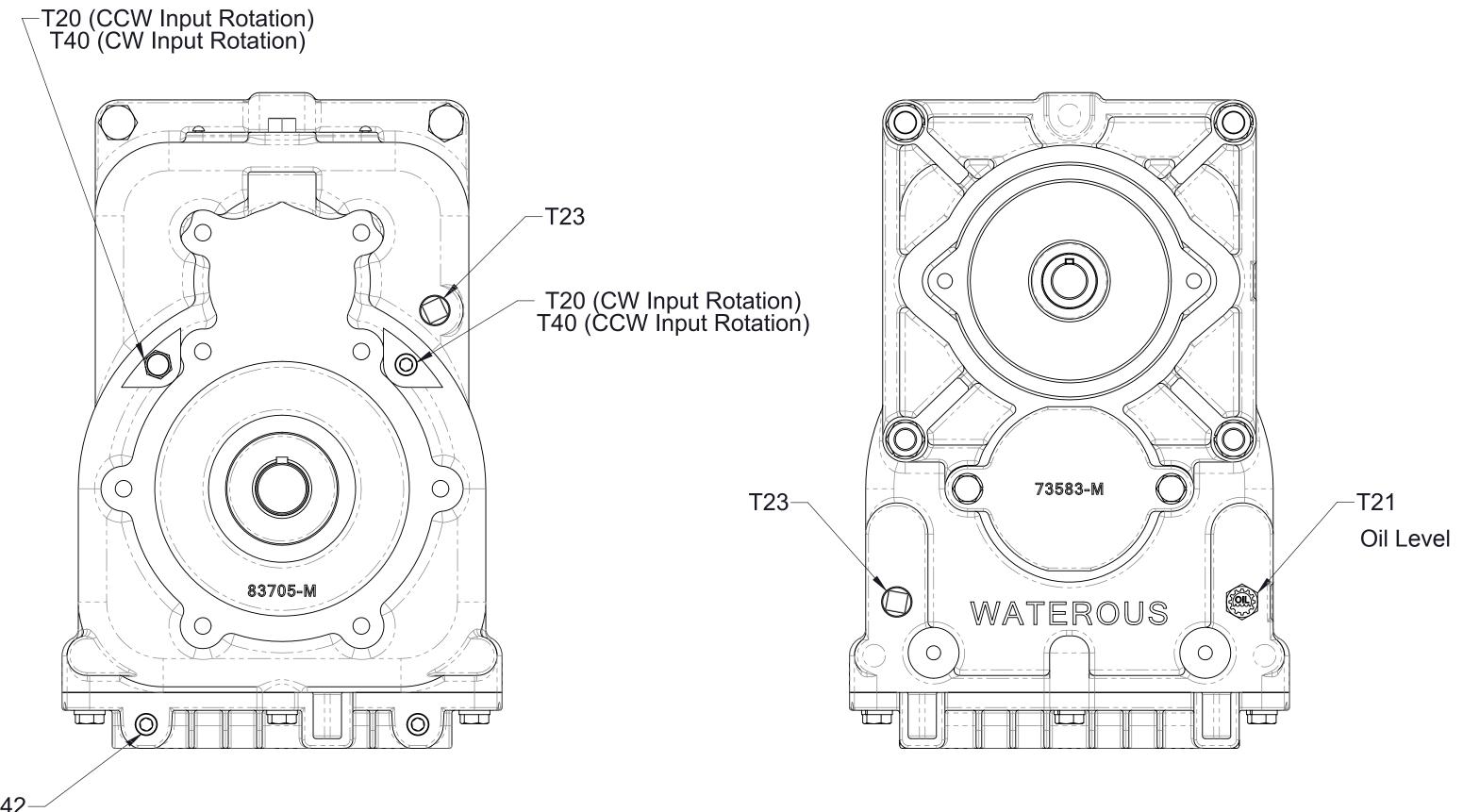
| Ref No. | Description                           |
|---------|---------------------------------------|
| T105    | Tee-Street, 1/4 NPT                   |
| T106    | Bushing-Reducing, Pipe, 3/8 x 1/4 NPT |
| T107    | Elbow-Adapter, Union, 90deg, 1/4 NPT  |
| T108    | Hose, High Pressure, 1/4 NPT x 23 in  |
| T109    | Hose, High Pressure, 1/4 NPT x 31 in  |

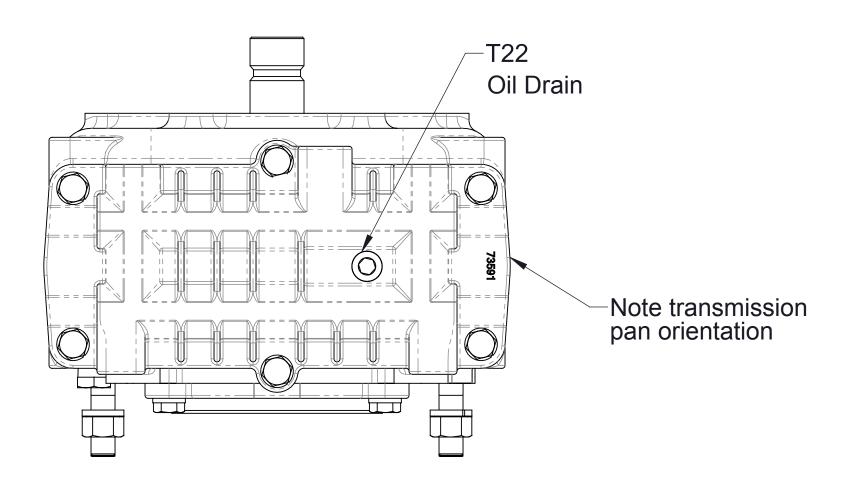


Note:
1. Route hoses so they drain through the transmission or pump. Draining is not required when pump is mounted with a horizontal or inverted discharge

| Ref No. | Description                         |
|---------|-------------------------------------|
| T20     | Breather, 1/4 NPT                   |
| T21     | Plug-Level, Oil, 3/8                |
| T22     | Plug-Drain, Magnetic, 3/8, Headless |
| T23     | Plug-Pipe, Square Hd, 3/8 NPT       |
| T40     | Plug-Pipe, Headless, 1/4 NPT        |
| T42     | Plug-Pipe, Headless, 1/4 NPT        |

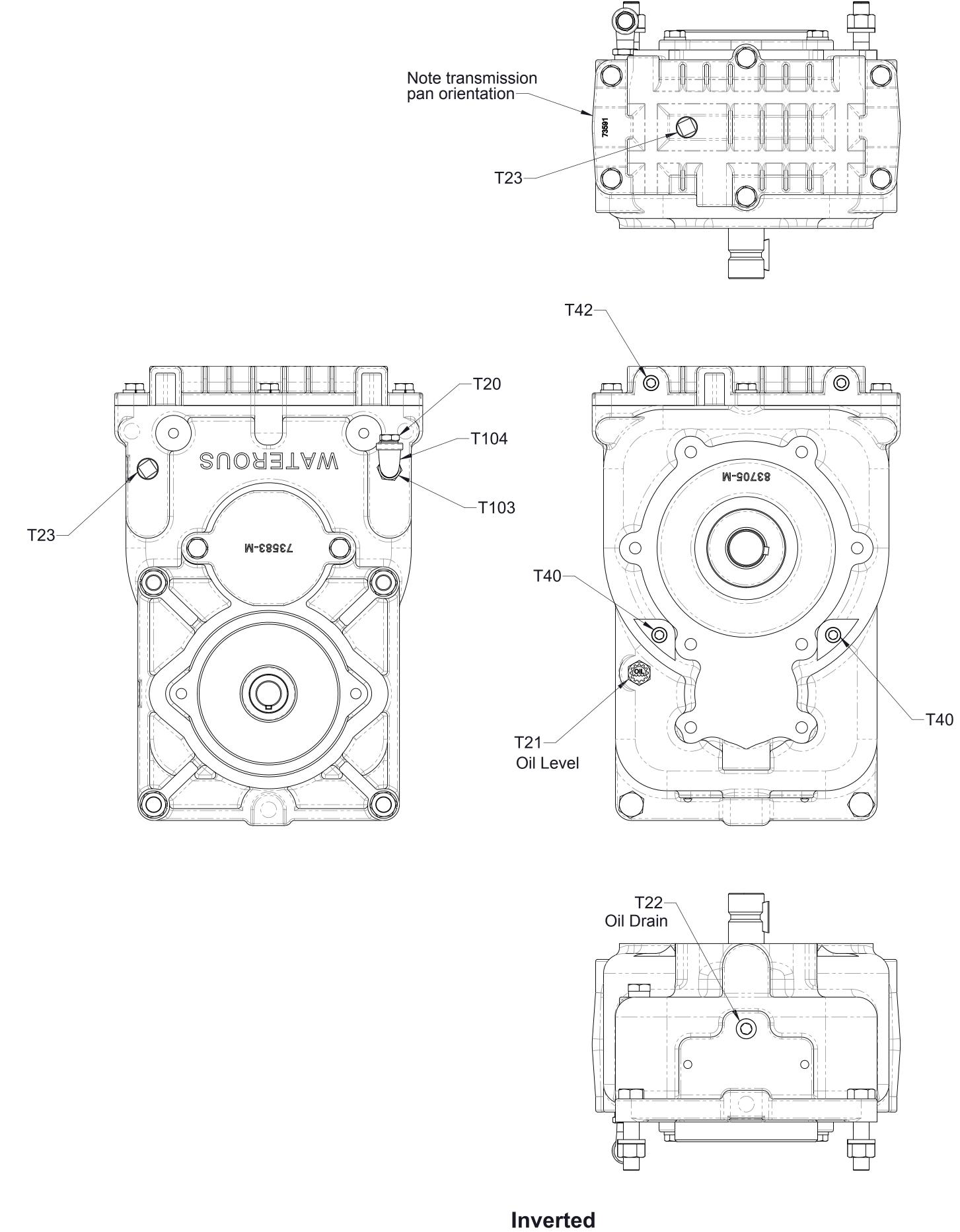




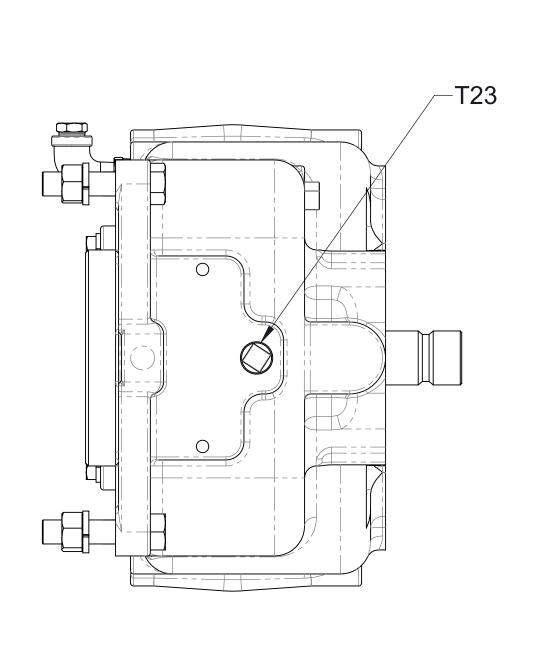


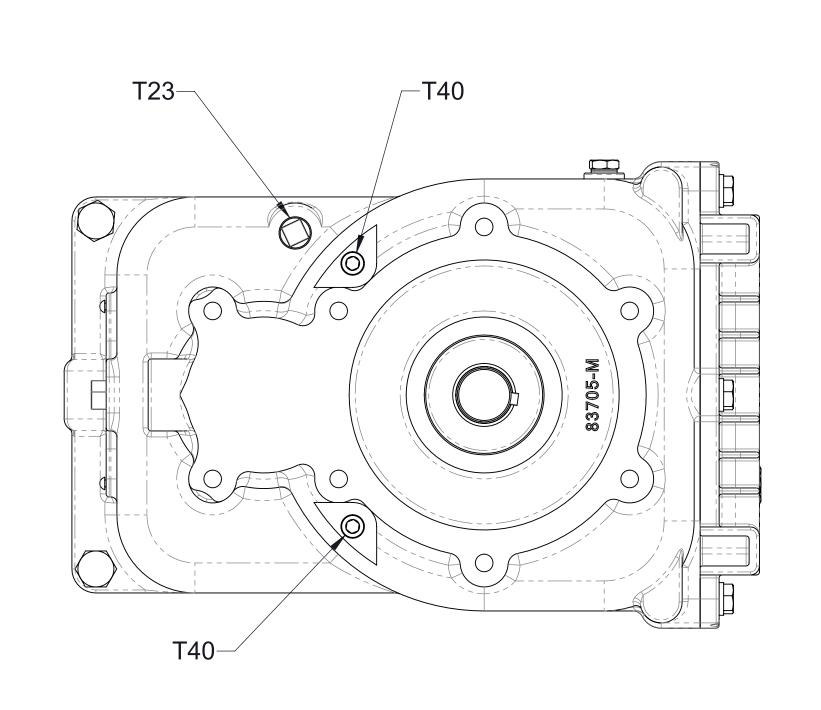
**Vertical** 

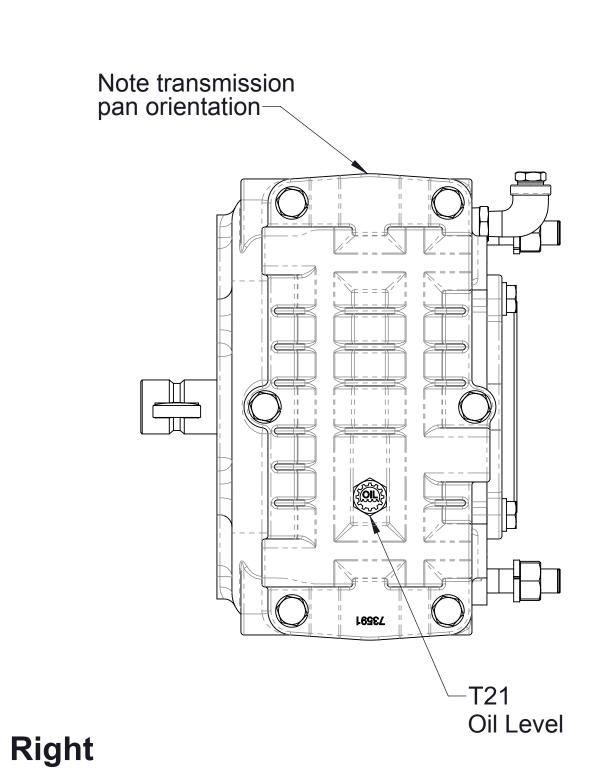
| Ref No. | Description                           |
|---------|---------------------------------------|
| T20     | Breather, 1/4 NPT                     |
| T21     | Plug-Level, Oil, 3/8                  |
| T22     | Plug-Drain, Magnetic, 3/8, Headless   |
| T23     | Plug-Pipe, Square Hd, 3/8 NPT         |
| T40     | Plug-Pipe, Headless, 1/4 NPT          |
| T42     | Plug-Pipe, Headless, 1/4 NPT          |
| T103    | Bushing-Reducing, 3/8 MNPT x 1/4 FNPT |
| T104    | Elbow-Street, 90°, 1/4 NPT            |

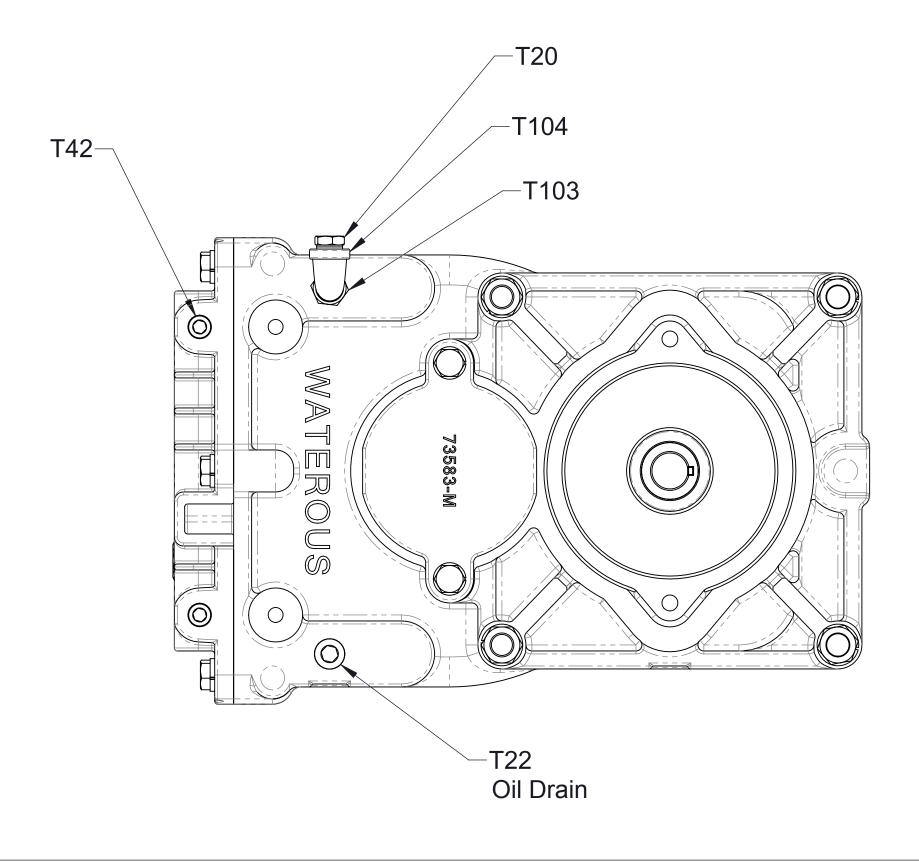


| Ref No. | Description                           |
|---------|---------------------------------------|
| T20     | Breather, 1/4 NPT                     |
| T21     | Plug-Level, Oil, 3/8                  |
| T22     | Plug-Drain, Magnetic, 3/8, Headless   |
| T23     | Plug-Pipe, Square Hd, 3/8 NPT         |
| T40     | Plug-Pipe, Headless, 1/4 NPT          |
| T42     | Plug-Pipe, Headless, 1/4 NPT          |
| T103    | Bushing-Reducing, 3/8 MNPT x 1/4 FNPT |
| T104    | Elbow-Street, 90°, 1/4 NPT            |

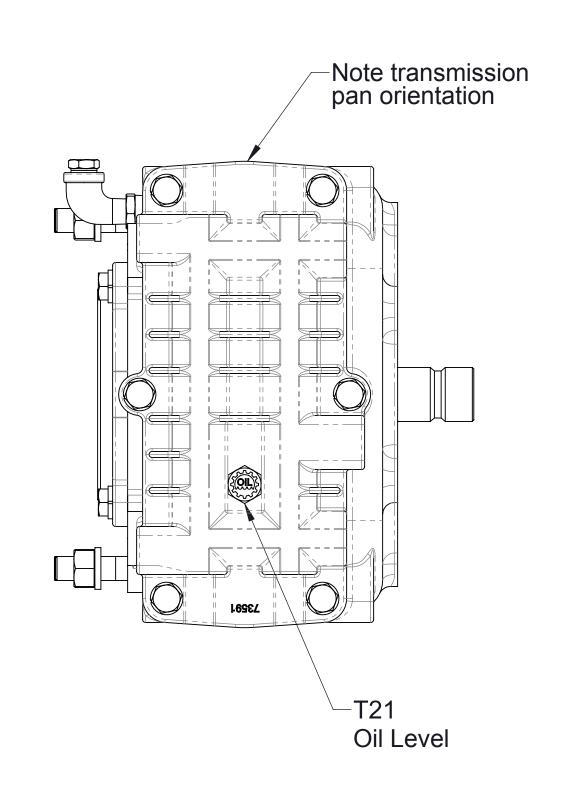


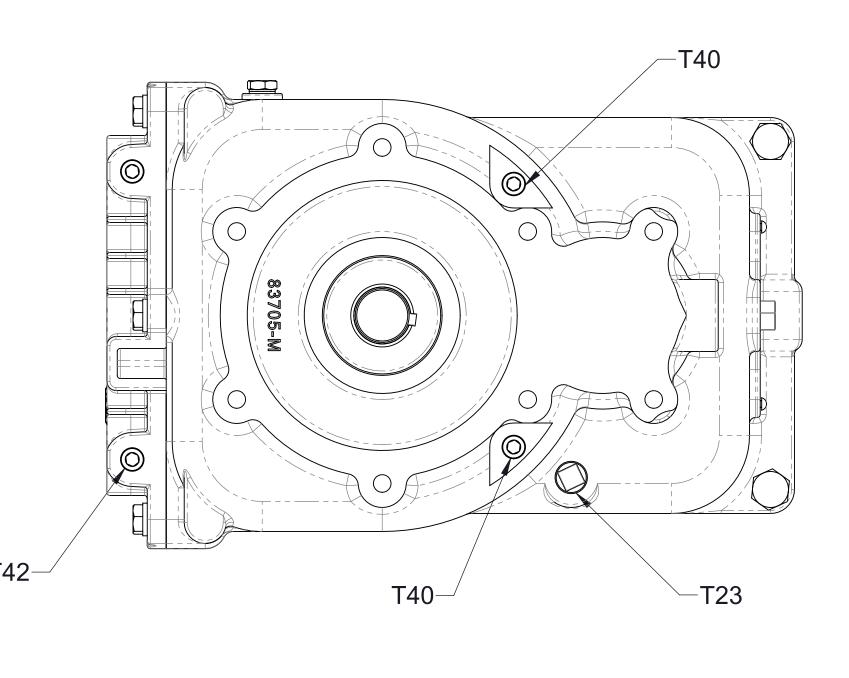


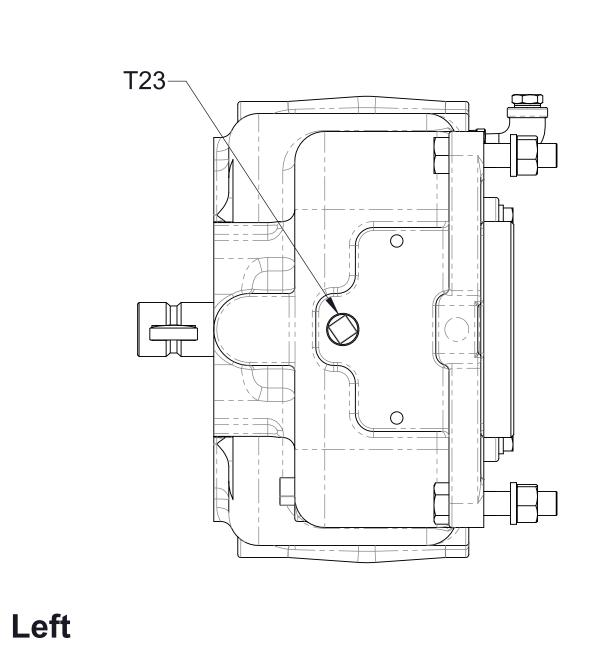




| Ref No. | Description                           |
|---------|---------------------------------------|
| T20     | Breather, 1/4 NPT                     |
| T21     | Plug-Level, Oil, 3/8                  |
| T22     | Plug-Drain, Magnetic, 3/8, Headless   |
| T23     | Plug-Pipe, Square Hd, 3/8 NPT         |
| T40     | Plug-Pipe, Headless, 1/4 NPT          |
| T42     | Plug-Pipe, Headless, 1/4 NPT          |
| T103    | Bushing-Reducing, 3/8 MNPT x 1/4 FNPT |
| T104    | Elbow-Street, 90°, 1/4 NPT            |







Breather, Drain, Oil Level, and Plug Locations Left and Right Mounting Positions

