

Keep With Operator's Manual

BACKHOE HYDRAULIC KIT NEW HOLLAND TRACTORS

| MODEL | BACKHOE | TRACTOR | LOADER |
|-------------|---------|---|-------------|
| NEW HOLLAND | 910GH | BOOMER 1020, BOOMER 1025, BOOMER 1030, T1010, T1030, T1110 | 210TL, 10LA |

GENERAL INFORMATION

Hydraulic kit can be installed on tractor and backhoe using tools ordinarily available. Tractor must be equipped with loader to operate backhoe.

Apply thread sealant or Teflon tape to all pipe thread fittings.



WARNING: Escaping hydraulic fluid under pressure can penetrate skin causing serious injury.

- *DO NOT use your hands to check for leaks. Use a piece of cardboard or paper to search for leaks.*
- *Stop engine and relieve pressure before connecting or disconnecting lines.*
- *Tighten all connections before starting engine or pressurizing lines.*
- *Make sure hoses are secure and will not rub on ground or tires.*

If any fluid is injected into skin, obtain medical attention immediately or gangrene may result.

INSTALLING HYDRAULIC KIT (Figures 1 & 2)

1. Connect 3/8" x 108" hose (2) to inlet port on backhoe valve. Route hose down and along top of lower right subframe tube, then along inside of front right subframe tube. Secure hose with 3 tie straps (15). Attach Dust Cap (10) and quick coupler (7) to end of hose.
2. Connect 1/2" x 48" hose (1) to tank port on backhoe valve. Install dust cap (8) and male quick coupler (6) to end of 1/2" x 48" hose (1).

NOTE: Installation of the parts is easier with the right rear wheel removed.

3. Disconnect hydraulic line (A) from tank port fittings. Remove fittings from tractor tank housing.

4. Connect adapter (13), dust plug (9), and coupler (4) to base of tee (12). Install adapter (11) to tank port and connect the tee (12) to tank port adapter (11), so that the coupler is horizontal and facing the rear of the tractor.
5. Reconnect hydraulic line (A) to the tee (12).
6. Access tractor loader valve and remove hydraulic oil hose (B) from power beyond port of valve. **DO NOT** remove any other fittings.
7. Attach 20" hose (3) onto 90° fitting at power beyond port of tractor loader valve. Attach 3/8" female coupler (5) to hose (3). Make sure hose clears valve cover and reinstall valve cover.
8. Install adapter (14) to hydraulic oil hose (B) removed from tractor valve. Attach dust cap (10) and quick coupler (7) to the hose.
9. Couple 3/8" hose (3) from tractor remote valve to hose (B) going to tractor hydraulic manifold.



WARNING: To prevent possible damage to tractor hydraulic system, these hoses must be coupled if tractor is operated without backhoe.

MOUNTING BACKHOE TO TRACTOR

1. Remove 3-point arms from tractor. Reinstall pins in their correct locations. Raise 3-point levers completely up.
2. Back tractor slowly toward backhoe, parallel to subframe assembly, until hoses can be connected to tractor.



WARNING: To prevent possible damage to hoses and backhoe valve, always shut off tractor engine when coupling or uncoupling hoses from backhoe. Make sure connections are complete at couplers.

MOUNTING BACKHOE TO TRACTOR (CONTINUED)

3. Connect backhoe tank hose (1) to tractor tank port coupler (4). Disconnect hose (3) from hose (B) going to hydraulic manifold, then connect backhoe pressure hose (2) to hose (3) (from tractor remote valve power beyond port).

NOTE: Route hose (2) around the front of the loader mount.

4. Using backhoe controls, extend bucket and lower stabilizers to provide a base for raising subframe. Using backhoe controls, raise subframe to proper height to connect to tractor.
5. Slowly back tractor until subframe is engaged on the 3-point pins. Lower backhoe to engage subframe into front ears.

DISCONNECTING BACKHOE FROM TRACTOR

1. Use backhoe stabilizers and dipper to remove pressure from backhoe subframe. Remove pins securing backhoe subframe.
2. Lower front of subframe and move tractor forward to allow subframe to clear front and rear mountings. Using stabilizer and dipper controls, allow backhoe subframe to lower to ground. Shut off tractor and actuate backhoe valve to relieve any trapped pressure.
3. Uncouple backhoe tank hose (1) from tractor. Uncouple backhoe pressure hose (2) from tractor remote valve power beyond hose (3).
4. Connect tractor remote valve power beyond hose (3) to hose (B) coming from tractor manifold.



WARNING: To prevent possible damage to tractor hydraulic system, these hoses must be coupled if tractor is operated without backhoe.

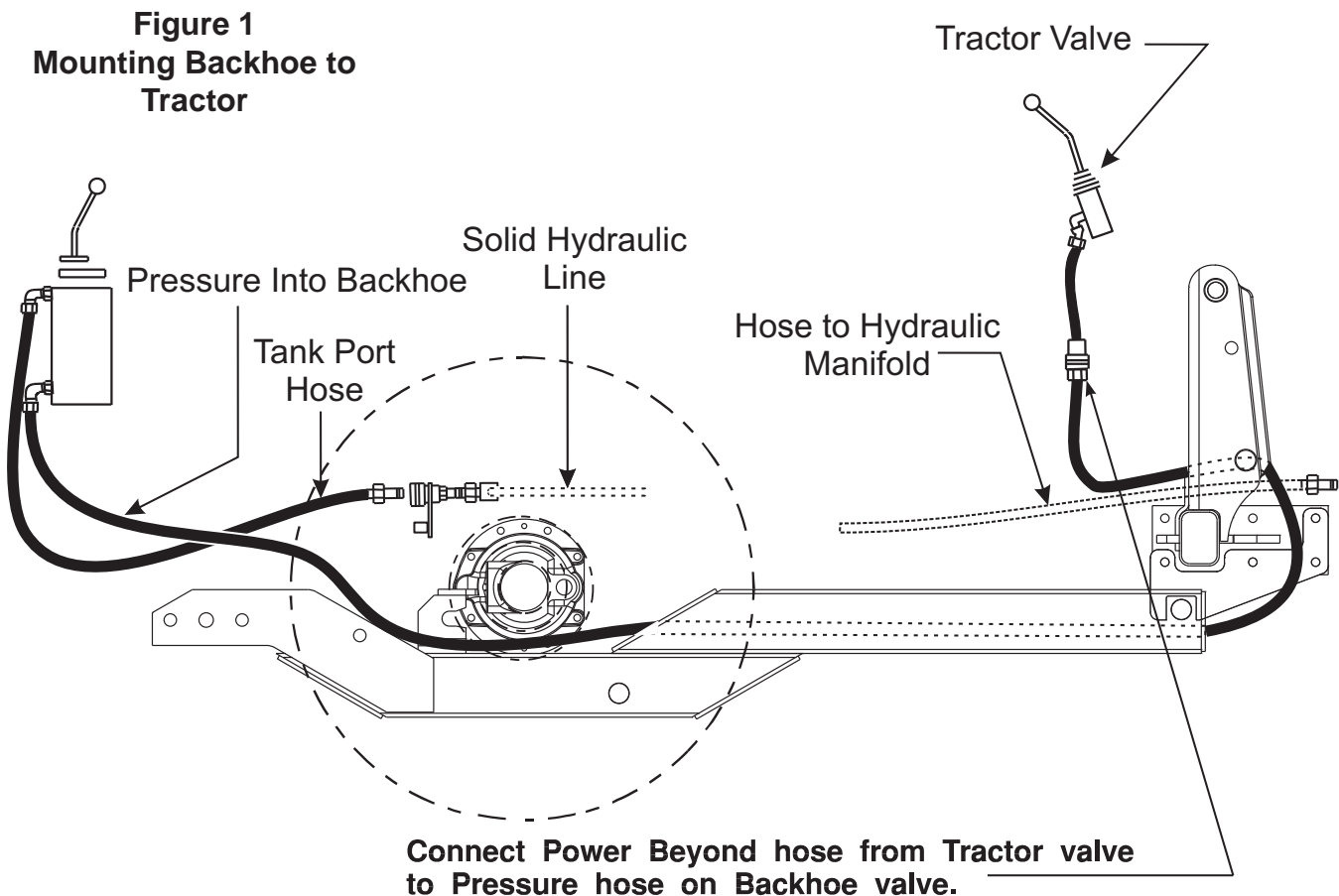
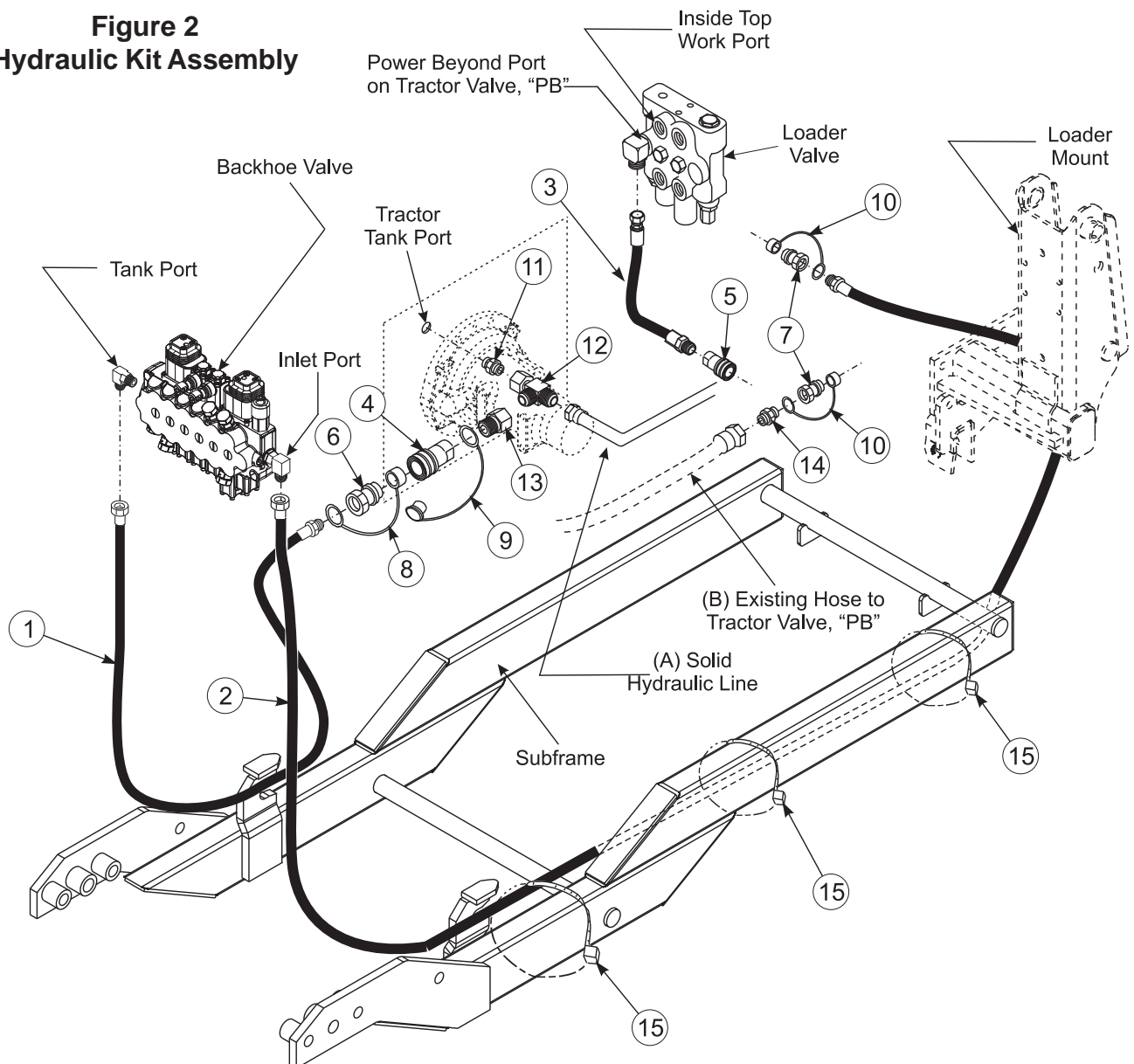


Figure 2
Hydraulic Kit Assembly



PARTS LIST – .5/.75 CLASS HYDRAULIC KIT

| Item | Part No. | Description | Qty. |
|------|----------|--|------|
| 1 | 41053-12 | HOSE, 1/2" X 48" | 1 |
| 2 | 36336-15 | HOSE, 3/8" X 108" | 1 |
| 3 | 36336-17 | HOSE, 3/8" X 20" | 1 |
| 4 | 6147-8 | QUICK COUPLER, Female, 1/2" | 1 |
| 5 | 6147-4 | QUICK COUPLER, Female, 3/8" | 1 |
| 6 | 6137-6 | QUICK COUPLER, Male, 1/2" | 1 |
| 7 | 6137-4 | QUICK COUPLER, Male, 3/8" | 2 |
| 8 | 4838-3 | DUST CAP, 1/2", Red | 1 |
| 9 | 4838-4 | DUST PLUG, 1/2", Red | 1 |
| 10 | 4838-5 | DUST CAP, 3/8", Red | 2 |
| 11 | 31221-6 | FITTING, Adapter, 1/4"-18 NPTF X 3/4"-16 MJIC | 1 |
| 12 | 37850-2 | FITTING, Tee, 3/4"-16 MJIC X 3/4"-16 FJIC X 3/4"-16 MJIC | 1 |
| 13 | 41397-3 | FITTING, Adapter, 1/2" NPTF X 3/4"-16 FJIC | 1 |
| 14 | 31221-3 | FITTING, Adapter, 3/8"-18 NPTF X 3/4"-16 MJIC | 1 |
| 15 | 8137-6 | TIE STRAP, 5/16" X 15" | 3 |

GENERAL TORQUE SPECIFICATIONS

USE THE FOLLOWING TORQUES WHEN SPECIAL TORQUES ARE NOT GIVEN

Standard American and Metric Cap Screws

| AMERICAN STANDARD CAP SCREWS | | | | | | | | | METRIC CAP SCREWS | | | | | | | | |
|------------------------------|--------|------|------|------|--------|-----|------|------|---|--------|------|------|------|--------|------|------|------|
| SAE Grade | 5 | | | | 8 | | | | Metric Class | 8.8 | | | | 10.9 | | | |
| Typ. Head Markings | | | | | | | | | Typ. Head Markings | | | | | | | | |
| Cap Screw | TORQUE | | | | TORQUE | | | | Cap Screw | TORQUE | | | | TORQUE | | | |
| Size | FT·LBS | | N·m | | FT·LBS | | N·m | | Size | FT·LBS | | N·m | | FT·LBS | | N·m | |
| Inches | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | Millimeters | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX |
| 1/4 - 20 | 6.25 | 7.25 | 8.5 | 10 | 8.25 | 9.5 | 11 | 13 | M6 x 1.00 | 6 | 8 | 8 | 11 | 9 | 11 | 12 | 15 |
| 1/4 - 28 | 8 | 9 | 11 | 12 | 10.5 | 12 | 14 | 16 | M8 x 1.25 | 16 | 20 | 21.5 | 27 | 23 | 27 | 31 | 36.5 |
| 5/16 - 18 | 14 | 15 | 19 | 20 | 18.5 | 20 | 25 | 27 | M10 x 1.50 | 29 | 35 | 39 | 47 | 42 | 52 | 57 | 70 |
| 5/16 - 24 | 17.5 | 19 | 23 | 26 | 23 | 25 | 31 | 34 | M12 x 1.75 | 52 | 62 | 70 | 84 | 75 | 91 | 102 | 123 |
| 3/8 - 16 | 26 | 28 | 35 | 38 | 35 | 37 | 47.5 | 50 | M14 x 2.00 | 85 | 103 | 115 | 139 | 120 | 146 | 163 | 198 |
| 3/8 - 24 | 31 | 34 | 42 | 46 | 41 | 45 | 55.5 | 61 | M16 x 2.50 | 130 | 158 | 176 | 214 | 176 | 216 | 238 | 293 |
| 7/16 - 14 | 41 | 45 | 55.5 | 61 | 55 | 60 | 74.5 | 81 | M18 x 2.50 | 172 | 210 | 233 | 284 | 240 | 294 | 325 | 398 |
| 7/16 - 20 | 51 | 55 | 69 | 74.5 | 68 | 75 | 92 | 102 | M20 x 2.50 | 247 | 301 | 335 | 408 | 343 | 426 | 465 | 577 |
| 1/2 - 13 | 65 | 72 | 88 | 97.5 | 86 | 96 | 116 | 130 | M22 x 2.50 | 332 | 404 | 450 | 547 | 472 | 576 | 639 | 780 |
| 1/2 - 20 | 76 | 84 | 103 | 114 | 102 | 112 | 138 | 152 | M24 x 3.00 | 423 | 517 | 573 | 700 | 599 | 732 | 812 | 992 |
| 9/16 - 12 | 95 | 105 | 129 | 142 | 127 | 140 | 172 | 190 | M27 x 3.00 | 637 | 779 | 863 | 1055 | 898 | 1098 | 1217 | 1488 |
| 9/16 - 18 | 111 | 123 | 150 | 167 | 148 | 164 | 200 | 222 | M30 x 3.00 | 872 | 1066 | 1181 | 1444 | 1224 | 1496 | 1658 | 2027 |
| 5/8 - 11 | 126 | 139 | 171 | 188 | 168 | 185 | 228 | 251 | NOTE: These values apply to fasteners as received from supplier, dry or when lubricated with normal engine oil. They do not apply if special graphite or moly sulphide greases or other extreme lubricants are used. | | | | | | | | |
| 5/8 - 18 | 152 | 168 | 206 | 228 | 203 | 224 | 275 | 304 | | | | | | | | | |
| 3/4 - 10 | 238 | 262 | 322 | 355 | 318 | 350 | 431 | 474 | | | | | | | | | |
| 3/4 - 16 | 274 | 305 | 371 | 409 | 365 | 402 | 495 | 544 | | | | | | | | | |
| 7/8 - 9 | 350 | 386 | 474 | 523 | 466 | 515 | 631 | 698 | | | | | | | | | |
| 7/8 - 14 | 407 | 448 | 551 | 607 | 543 | 597 | 736 | 809 | | | | | | | | | |
| 1 - 8 | 537 | 592 | 728 | 802 | 716 | 790 | 970 | 1070 | | | | | | | | | |
| 1 - 14 | 670 | 740 | 908 | 1003 | 894 | 987 | 1211 | 1337 | | | | | | | | | |

37° JIC Fittings

| Size | Thread Size | Assembly Torque | | Tube Connection F. F. F. T. | Swivel Nut or Hose Connection F. F. F. T. |
|------|-------------|-----------------|----------|--------------------------------|--|
| | | in.·lb. | ft.·lb. | | |
| -4 | 7/16 - 20 | 140 ± 10 | 12 ± 1 | 2 | 2 |
| -5 | 1/2 - 20 | 180 ± 15 | 15 ± 1 | 2 | 2 |
| -6 | 9/16 - 18 | 250 ± 15 | 21 ± 1 | 1 1/2 | 1 1/4 |
| -8 | 3/4 - 16 | 550 ± 25 | 45 ± 5 | 1 1/2 | 1 |
| -12 | 1 1/16 - 12 | 1000 ± 50 | 85 ± 5 | 1 1/4 | 1 |
| -16 | 1 5/16 - 12 | 1450 ± 50 | 120 ± 5 | 1 | 1 |
| -20 | 1 5/8 - 12 | 2000 ± 100 | 170 ± 10 | 1 | 1 |
| -24 | 1 7/8 - 12 | 2400 ± 150 | 200 ± 15 | 1 | 1 |
| -32 | 2 1/2 - 12 | 3200 ± 200 | 270 ± 20 | 1 | 1 |

O-Ring Face Seal Tube/ Hose Swivel Nut

| Metric Tube O.D. (mm) | Dash Size | Thread Size (in.) | Swivel Nut Hex Size (in.) | Swivel Nut Torque | |
|-----------------------|-----------|-------------------|---------------------------|-------------------|---------------------|
| | | | | N·m | lb _r ·ft |
| 5 | -3 | -- | -- | -- | -- |
| 6 | -4 | 9/16 - 18 | 11/16 | 16 | 12 |
| 8 | -5 | -- | -- | -- | -- |
| 10 | -6 | 11/16 - 16 | 13/16 | 24 | 18 |
| 12 | -8 | 13/16 - 16 | 15/16 | 50 | 37 |
| 16 | -10 | 1 - 14 | 1-1/8 | 69 | 51 |
| 20 | -12 | 1-3/16 - 12 | 1-3/8 | 102 | 75 |
| 22 | -14 | 1-3/16 - 12 | -- | 102 | 75 |
| 25 | -16 | 1-7/16 - 12 | 1-5/8 | 142 | 105 |
| 32 | -20 | 1-11/16 - 12 | 1-7/8 | 190 | 140 |
| 38 | -24 | 2 - 12 | 2-1/4 | 217 | 160 |
| 50.8 | -32 | -- | -- | -- | -- |

SAE O-Ring Fittings

| Size | Swivel Nut or Hose | Assembly Torque | | F. F. F. T. |
|------|--------------------|-----------------|-----------|-------------|
| | | in.·lb. | ft.·lb. | |
| 2 | 5/16 - 24 | 90 ± 5 | 7.5 ± 0.5 | 1 ± .25 |
| 3 | 3/8 - 24 | 170 ± 10 | 14 ± 1 | 1 ± .25 |
| 4 | 7/16 - 20 | 220 ± 15 | 18 ± 1 | 1 ± .25 |
| 5 | 1/2 - 20 | 260 ± 15 | 22 ± 1 | 1 ± .25 |
| 6 | 9/16 - 18 | 320 ± 20 | 27 ± 2 | 1.5 ± .25 |
| 8 | 3/4 - 16 | 570 ± 25 | 48 ± 2 | 1.5 ± .25 |
| 10 | 7/8 - 14 | 1060 ± 50 | 90 ± 5 | 1.5 ± .25 |
| 12 | 1 1/16 - 12 | 1300 ± 50 | 110 ± 5 | 1.5 ± .25 |
| 14 | 1 3/16 - 12 | 1750 ± 75 | 145 ± 6 | 1.5 ± .25 |
| 16 | 1 5/16 - 12 | 1920 ± 125 | 160 ± 6 | 1.5 ± .25 |
| 20 | 1 5/8 - 12 | 2700 ± 150 | 225 ± 12 | 1.5 ± .25 |
| 24 | 1 7/8 - 12 | 3000 ± 150 | 250 ± 12 | 1.5 ± .25 |
| 32 | 2 1/2 - 12 | 3900 ± 200 | 325 ± 15 | 1.5 ± .25 |

INSTALLATION INSTRUCTIONS