What Model do you have?

Look on this
Serial # / Model Tag
YOUR GRAPPLE HAS AN ADJUSTABLE CLOSING GAP

Top Tooth Bolt in this Hole

Narrow Gap

Wide Gap

STANDARD SETTING

WIDE-GAP SETTING

FOR COMPLETE DIMENSIONS OF YOUR GRAPPLE...

Turn to the “Grapple Specification” page near the end of this booklet.
All Miller Farm Single Cylinder Grapples are equipped with an Orifice. The orifice regulates the flow of hydraulic fluid to the grapple cylinder. Without the orifice, the grapple will open and close too quickly and the wear & tear on the grapple will increase dramatically.

All Miller Twin-Cylinder Farm Grapples are equipped with a pressure Relief Valve. The relief valve has an adjustable pressure setting between 1000-2500 psi. It comes pre-set from the factory at approximately 2300 psi. This should be more than enough pressure to handle large bales. Without the relief valve, tractors with high-pressure systems (2750 psi and above) eventually bend and distort the grapple teeth, even though the teeth are fabricated from high-strength steel.

To adjust your relief valve, refer to Schematic RD-1837-H.

If you remove or modify your Orifice or Relief Valve, your warranty on your grapple will void.

See the appropriate “Plumbing” Schematic for your grapple to determine the location and part number for your orifice or Relief Valve.
ATTENTION
Owners of GF3X & GF3XU Grapples

POSITION OF 45 degree FITTING ON 3-TINE GRAPPLES.

If this fitting is not installed, or not pointed in the right direction, the hose will hit the mainframe arm when the bucket is rolled back and the grapple is open. This fitting is required on ALL LOADERS equipped with a 3-Tine grapple, except the P-12.
HIGH PRESSURE PORT

LOW PRESSURE PORT

MAX. PRESSURE (ABOUT 2500 PSI) ACHEIVED WHEN 2 THREADS OF SET SCREW ARE STICKING OUT BEYOND THE JAM NUT. GENERAL RULE OF THUMB IS A 100 psi REDUCTION IN PRESSURE FOR EVERY 1/4 TURN OUT OF THE SET SCREW.

DO NOT SCREW SET SCREW IN SO FAR THAT THERE ARE NO THREADS LEFT TO SCREW ON CAP. THE CAP IS NECESSARY TO PREVENT LEAKAGE BY THE SET SCREW.

Do NOT operate without cap installed

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RDR-CP</td>
<td>CAP</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>RDR-JN</td>
<td>JAM NUT, 3/4-16 UNF</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>RDR-SS</td>
<td>SET SCREW</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>RDR-B38</td>
<td>VALVE BODY, 3/8 NPT</td>
<td>1</td>
</tr>
</tbody>
</table>

RELIEF VALVE, ADJ. 1000-2500 PSI

SCHEMATIC

DWG. NO. RD1837-H

DATE 2/10/2005

SHEET 1 of 1
### Item List

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Part Number</th>
<th>Description</th>
<th>Exploded/Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CY-046-LT</td>
<td>TUBE ASSY, GF4X GRAPPLE, 14-IN. STK, ORIF, LH</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>CP-PS-2575-P</td>
<td>PISTON, 2.500, PH</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>CP-GS-2516-S</td>
<td>GLAND, 2516 SHORT-TAIL, STAINLESS</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>HW-WS-12-A</td>
<td>WASHER, 3/4, SAE, PLAIN</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>HW-NS-12-E</td>
<td>NUT, 3/4-16 UNF, GRC, TL</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>CY-013-D</td>
<td>ROD ASSY, FARM GRAPPLE, 1-5/8 x 14 STROKE</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>CP-KT-2516-PSS</td>
<td>P-KIT, 2.500 POLY-H, with Stainless Snap Ring</td>
<td>1</td>
</tr>
</tbody>
</table>

**Notes:**

1. PACKING KIT SHOWN IN PART LIST, BUT NOT SHOWN IN DRAWING.
2. CYLINDERS MADE PRIOR TO MARCH ‘05 HAD A STEEL SNAP RING AND A DUCTILE IRON GLAND.

**Dimensions:**

- Bore: 2.500
- Rod: 1.625
- Stroke: 13-5/8"
- Port Style: 3/8 NPT

**Weight:** 27.249 lb
### Notes:

1. Packing Kit shown in part list, but not shown in drawing.
2. Cylinders made prior to March '05 had a steel snap ring and a ductile iron gland.

### Itemized Parts List

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Part Number</th>
<th>Description</th>
<th>Exploded/Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CY-046-RT</td>
<td>Tube Assy, GF4x Grapple, 14-in. Stk, Orif, RH</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>CP-PS-2575-P</td>
<td>Piston, 2.500, PH</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>CP-GS-2516-S</td>
<td>Gland, 2516 Short-Tail, Stainless</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>HW-WS-12-A</td>
<td>Washer, 3/4, SAE, Plain</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>HW-NS-12-E</td>
<td>Nut, 3/4-16 UNF, GRC, TL</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>CY-013-D</td>
<td>Rod Assy, Farm Grapple, 1-5/8 x 14 Stroke</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>CP-KT-2516-PSS</td>
<td>P-Kit, 2.500 Poly-H, with Stainless Snap Ring</td>
<td>1</td>
</tr>
</tbody>
</table>

### Dimensions

- Bore: 2.500
- Rod: 1.625
- Stroke: 13-5/8"
- Port Style: 3/8 NPT

### All Dimensions in Inches
NOTE
STAINLESS STEEL SNAP RING S USED ON ALL FARM GRAPPLURES STARTING IN FEB, '05. OLDER CYLINDERS CAN BENEFIT FROM THE USE OF THIS SNAP RING, AS IT IS MUCH EASIER TO WORK WITH. STAINLESS STEEL GLANDS ALSO STARTED BEING USED IN FEB '05.
GRAPPLE HOSES (NOT SHOWN)

P-12 LOADER
LONG HOSE PART# HS-06-088-A
SHORT HOSE PART# HS-06-072-A

GL/GP25 & GL/GP30 LOADERS
LONG HOSE PART# HS-06-097-A
SHORT HOSE PART# HS-06-081-A

GRAPPLE HOSES (NOT SHOWN)

P-12 LOADER
LONG HOSE PART# HS-06-088-A
SHORT HOSE PART# HS-06-072-A

GL/GP25 & GL/GP30 LOADERS
LONG HOSE PART# HS-06-097-A
SHORT HOSE PART# HS-06-081-A

GRAPPLE, MODEL GF3X

JUNE 2005
SECOND SET OF TOOTH BRACES ADDED
SERIAL # 2677+
ITEM NO. | PART NUMBER | DESCRIPTION | Closed/QTY.
--- | --- | --- | ---
1 | GF3X-A | WELDED FRAME, GF3X-GF3XU GRAPPLE | 1
2 | CY-046-L | CYLINDER, LH | 1
3 | CY-013-D | ROD ASSY, FARM GRAPPLE | 1
4 | CP-GL-2516-S | GLAND, 2516 SHORT-TAIL | 1
5 | HW-B5-12-0250-C | BOLT, 3/4-10 X 2 1/2 UNC, G8 ZN | 6
6 | HW-LS-12-B | LOCK WASHER, 3/4, G8, HI-ALLOY | 6
7 | HW-NS-12-C | NUT, 3/4-10, G8, ZC | 6
8 | GF3X-TB | TOOTH BRACE, 3-TINE GRAPPLE | 2
9 | HW-LS-08-A | LOCK WASHER, 1/2, MED, ZN | 6
10 | HW-NS-08-A | NUT, 1/2-13 UNC, ZN | 6
11 | HW-BS-08-0250-A | BOLT, 1/2-13 x 2-1/2 LONG, GR5 ZN | 2
12 | HW-ZK-001 | ZERK FITTING, 1/4-28 UNF | 1

ITEM NO. | PART NUMBER | DESCRIPTION | Closed/QTY.
--- | --- | --- | ---
13 | HW-BS-16-0700-B | BOLT, 1-8 X 7 UNC, G8 ZN | 1
14 | HW-NS-16-H | NUT, 1-8 UNC, GR. 8, TOP LOCK, ZN | 1
15 | PN-04000-010 | PIN, MAINLIFT CYLINDER | 1
16 | GF4XQ-20 | DOUBLER PLATE, GF4Q GRAPPLE | 1
17 | HW-BS-0150-B | BOLT, CARRIAGE 1/2 x 1-1/2, G5 ZN | 11
18 | HW-LS-08-A | LOCK WASHER, 1/2, MED ZN | 11
19 | HW-NS-08-A | NUT, 1/2-13 UNC, ZN | 11
20 | SF-5503-06 | STREET ELBOW, 45 DEGREE, STEEL | 1
21 | HW-BS-08-0200-A | BOLT, 1/2-13 UNC, GR5 ZN, 2" LONG | 4
22 | GF-TX025 | TOOTH, GF3XU GRAPPLE | 3
23 | CP-RF06078SS | RESTRICTOR ORIFICE, 3/8 NPT, 0.078, SS | 1
24 | HW-NS-16-E | NUT, 1-14 UNF GR8 TL, ZN | 1

GRAPPLE HOSES (NOT SHOWN)

G15 & G20 LOADER
LONG HOSE PART# HS-06-088-A
SHORT HOSE PART# HS-06-072-A
**GRAPPLE, MODEL GF4X**

**Item No.** | **Part Number** | **Description** | **Closed/QTY.**
---|---|---|---
1 | GF4X-A | WELDED ASSEMBLY, GF4X GRAPPLE | 1
2 | CY-046-L | CYLINDER, LH | 1
3 | CY-046-R | GRAPPLE CYLINDER, RH | 1
4 | GF-TX075 | TOOTH, GF4X GRAPPLE, 3/4 THICK | 4
5 | HW-B5-12-0250-C | BOLT, 3/4-10 X 2 1/2 UNC, G8 ZN | 8
6 | HW-LS-12-B | LOCKWASHER, 3/4, G8, HI-ALLOY | 8
7 | HW-NS-12-C | NUT, 3/4-10, G8, ZC | 8
8 | HW-LE-08-A | LOCKWASHER, 1/2, MED, ZN | 16
9 | HW-NS-08-A | NUT, 1/2-13 UNC, ZN | 16
10 | HW-BS-08-0250-A | BOLT, 1/2-13 x 2 1/2 LONG, G5 ZN | 8
11 | HW-BS-08-0200-A | BOLT, 1/2-13 X 2 UNC, G5 ZN | 8
12 | HW-ZK-001 | ZERK FITTING, 1/4-28 UNF | 2
13 | HW-BS-16-0700-B | BOLT, 1-8 X 7 UNC, G8 ZN | 2
14 | HW-NS-16-H | NUT, 1-8 UNC, GR. 8, TOP LOCK, ZN | 2
15 | PN-04000-D10 | PIN, MAINLIFT CYLINDER | 2
16 | GF4X-20 | DOUBLER PLATE, GF4Q GRAPPLE | 2
17 | HW-B5-16-0700-B | BOLT, CARRIAGE 1/2 x 7 1/2, G5 ZN | 16
18 | HW-NS-16-E | NUT, 1-14 UNC, ZN | 16
19 | HW-NS-08-A | NUT, 1/2-13 UNC, ZN | 16
20 | HW-NS-16-D | NUT, 1-14 UNF GR8 TL, ZN | 2

**PLUMBING NOT SHOWN**

See Schematic GF4-BE for hose & piping detail
GF4X Grapple

APPLICATIONS:
GF4X grapples made from June '05 - Current
Serial # Range: 2635, 2688 - Current

SUPPLY/RETURN FOR LEFT SIDE CYLINDER

RIGHT SIDE CYLINDER (SHOWN FOR CLARITY)

MAKE SURE TAPERED END GOES INTO THE SWIVEL FITTING AND NOT THE OIL PORT

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HP-GF4</td>
<td>PIPE ASSEMBLY, 4 TOOTH GRAPPLE</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>GF4T-16</td>
<td>PIPE BRACKET, 4T GRAPPLE</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>HW-ES-06-0200-A</td>
<td>BOLT, 3/8-16 UNC, GR5 ZN, 2&quot; LONG</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>HW-LS-06-A</td>
<td>LOCK WASHER, 3/8, ZN</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>HW-NS-06-A</td>
<td>NUT, 3/8-16 UNC TL, ZN</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>HS-06-025-A</td>
<td>HOSE, 3/8 MP-MPX, 25-IN. LONG</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>SF-5602-06</td>
<td>STREET TEE, 3/8 NPT</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>SF-1404-06-06</td>
<td>MALE SWIVEL ADAPTER, -3/8 NPT</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>SF-5404-06</td>
<td>HEX PIPE NIPPLE, 3/8 NPT</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>RD1837-H</td>
<td>RELIEF VALVE, ADJ. 1000-2500 PSI</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>HS-06-0115-A</td>
<td>HOSE, 3/8 MPX-MPX90, 11-1/2&quot; LONG</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>HS-06-025-A</td>
<td>HOSE, 3/8 MP-MPX, 25-IN. LONG</td>
<td>1</td>
</tr>
</tbody>
</table>

GF4X PLUMBING KIT "BE"
**GF4W Grapple**

**APPLICATIONS:**
GF4W grapples made from June '05 - Current
Serial # Range: units after 2688

**RIGHT SIDE CYLINDER (SHOWN FOR CLARITY)**

1. MAKE SURE TAPERED END GOES INTO THE SWIVEL FITTING AND NOT THE OIL PORT

**ITEM NO.** | **PART NUMBER** | **DESCRIPTION** | **QTY.**
---|---|---|---
1 | GF4T-16 | PIPE BRACKET, 4T GRAPPLE | 2
2 | HW-BS-06-0200-A | BOLT, 3/8-16 UNC, GR5 ZN, 2" LONG | 2
3 | HW-LS-06-A | LOCK WASHER, 3/8, ZN | 2
4 | HW-NS-06-A | NUT, 3/8-16 UNC TL, ZN | 2
5 | HS-06-025-A | HOSE, 3/8 MP-MPX, 25-IN. LONG | 3
6 | SF-5602-06 | STREET TEE, 3/8 NPT | 1
7 | SF-1404-06-06 | MALE SWIVEL ADAPTER, 3/8 NPT | 1
8 | SF-5404-06 | HEX PIPE NIPPLE, 3/8 NPT | 1
9 | RD1857-H | RELIEF VALVE, ADJ. 1000-2500 PSI | 1
10 | HS-06-0115-A | HOSE, 3/8 MPX-MPX90, 11/12" LONG | 1
11 | HS-06-025-A | HOSE, 3/8 MP-MPX, 25-IN. LONG | 1
12 | HP-GF4W | PIPE ASSEMBLY, WIDE FRAME GRAPPLE | 2
# Grapple Specifications

<table>
<thead>
<tr>
<th>GRAPPLE</th>
<th>Applicable Loaders</th>
<th>Adjustable Closing Gap?</th>
<th>Quick Dismount?</th>
<th>No. of Cylinders</th>
<th>No. of Tines</th>
<th>Width between Outermost Tines</th>
<th>Tine Material</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>GF4X</td>
<td>P-12, GL25, GP25, GL30, GP30, PL-5</td>
<td>Yes</td>
<td>No</td>
<td>2</td>
<td>4</td>
<td>72”</td>
<td>3/4 Gr. 50 Steel</td>
<td>640#</td>
</tr>
<tr>
<td>GF4Q</td>
<td>GL25, GP25, GL30, GP30, PL-5</td>
<td>Yes</td>
<td>Yes</td>
<td>2</td>
<td>4</td>
<td>72”</td>
<td>3/4 Gr. 50 Steel</td>
<td>730#</td>
</tr>
<tr>
<td>GF4W</td>
<td>New Holland 7614 Loader with Miller Bucket</td>
<td>Yes</td>
<td>No</td>
<td>2</td>
<td>4</td>
<td>83”</td>
<td>3/4 Gr. 50 Steel</td>
<td>665#</td>
</tr>
<tr>
<td>GF3X</td>
<td>P-12, GL25, GP25, GL30, GP30, PL-5</td>
<td>Yes</td>
<td>No</td>
<td>1</td>
<td>3</td>
<td>60”</td>
<td>3/4 Gr. 50 Steel</td>
<td>490#</td>
</tr>
<tr>
<td>GF3XU</td>
<td>G15, G20</td>
<td>Yes</td>
<td>No</td>
<td>1</td>
<td>3</td>
<td>60”</td>
<td>5/8 Gr. 50 Steel</td>
<td>485#</td>
</tr>
</tbody>
</table>

**GRAPPLE BOOK Feb ’05**
WARRANTY

Dec 2004

ALL PRODUCTS MANUFACTURED BY MILLER LOADERS, INCORPORATED (MLI) EXCEPT THE CHROME-PLATED PIVOT PINS USED ON GREASELESS LOADERS, ARE GUARANTEED TO THE ORIGINAL PURCHASER FOR A PERIOD OF ONE YEAR FROM THE DAY OF PURCHASE AGAINST ANY DEFECTS IN MATERIALS AND WORKMANSHIP OF FARM LOADERS AND ATTACHMENTS THAT ARE USED IN NORMAL FARM OPERATIONS. THE CHROME-PLATED PIVOT PINS USED ON GREASELESS LOADERS ARE GUARANTEED TO THE ORIGINAL PURCHASER FOR A PERIOD OF FIVE YEARS FROM THE DAY OF PURCHASE AGAINST ANY DEFECTS IN MATERIALS AND WORKMANSHIP OR AGAINST WEAR THROUGH OF THE CHROME FINISH COVERING AT LEAST ONE-QUARTER OF THE PIN SURFACE.

ALL GREASELESS COMPOSITE BEARINGS SOLD BUT NOT MANUFACTURED BY MLI ARE GUARANTEED TO THE ORIGINAL PURCHASER FOR A PERIOD OF FIVE YEARS FROM THE DAY OF PURCHASE AGAINST BREAKAGE OR LOSS OF THEIR SELF-LUBRICATING PROPERTY.

THE FIVE YEAR WARRANTY FOR THE CHROME-PLATED PIVOT PINS AND GREASELESS COMPOSITE BEARINGS IS LIMITED TO THE PARTS ONLY. MLI IS NOT RESPONSIBLE FOR ANY LABOR NECESSARY FOR THE INSPECTION, REMOVAL, OR REPLACEMENT OF SAID PIVOT PINS AND/OR COMPOSITE BEARINGS.

ALL PARTS SOLD BUT NOT MANUFACTURED BY MLI THAT INCLUDE BUT ARE NOT LIMITED TO ZINC-PLATED PINS, HOSES, VALVES, QUICK COUPLERS, PUMPS, TANKS, ETC. ARE COVERED ONLY TO THE EXTENT OF THE MANUFACTURER’S WARRANTY ON THESE ITEMS. MLI DOES NOT WARRANTY THESE ITEMS EXPRESSLY OR IMPLIEDLY.

DEFACEMENT OF ANY PART BY WELDING OR OTHERWISE ALTERING, OR EXCESSIVE WEAR ON PINS CAUSED BY LACK OF LUBRICATION, NULLIFIES THE WARRANTY ON THE MLI PRODUCT.

MLI ASSUMES NO RESPONSIBILITY AS TO THE PERFORMANCE OR FAILURE OF A TRACTOR’S HYDRAULIC SYSTEM.

THE HYDRAULIC COMPONENTS OF THE MLI PRODUCTS ARE GUARANTEED UP TO A PRESSURE OF 3000 POUNDS PER SQUARE INCH AT A MAXIMUM FLOW RATE OF 30 GALLONS PER MINUTE.

MLI ASSUMES NO RESPONSIBILITY FOR THE FAILURE OF THE PURCHASER TO SECURE THE LOADER TO THE TRACTOR PROPER, WHICH INCLUDES PROPER BOLT TIGHTENING AND SECURING OF ALL CONNECTION POINTS.

ALL ITEMS MANUFACTURED BY MLI REQUIRING WARRANTY CONSIDERATION MUST BE RETURNED TO MLI OR A DESIGNATED REPRESENTATIVE BY THE ORIGINAL PURCHASER. ANY ITEM SO RETURNED BY COMMON CARRIER MUST BE PREPAID FREIGHT.

THE WARRANTIES PROVIDED BY MLI AS REFERRED TO ABOVE SHALL BE THE SOLE AND EXCLUSIVE WARRANTIES. THERE SHALL BE NO OTHER WARRANTIES EXPRESS OR IMPLIED INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS OR ANY OTHER OBLIGATION ON THE PART OF MLI WITH RESPECT TO PRODUCTS COVERED BY THIS WARRANTY.

IN NO EVENT SHALL THE WARRANTIES OF MLI REQUIRE MORE FROM MLI THAN THE REPAIR OR REPLACEMENT OF ANY PART OR PARTS WHICH ARE FOUND TO BE DEFECTIVE WITHIN THE EFFECTIVE PERIOD OF THE WARRANTY. MLI SHALL HAVE NO LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

MILLER LOADERS INC, 1242 ARIZONA AVE, LARCHWOOD, IA 51241

PHONE: 1-800-570-8205
Or (712) 477-2795

FAX: (712) 477-2500