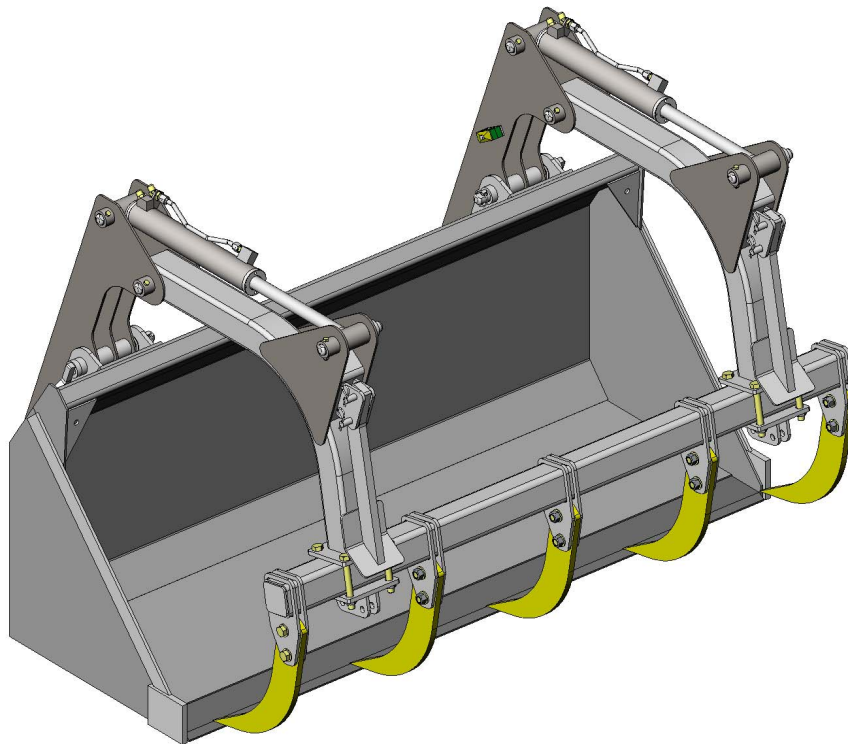


GrabTec

Farm Grapple

OWNER'S MANUAL



'GF' and 'GFD' Models

© Grabtec Inc
May 2014

Install Center/Shipping/Receiving:
1242 Arizona Ave
Larchwood, IA 51241
(888) 857-8952
(712) 477-2675

PREFACE

This manual describes the installation, operation and maintenance of the Grabtec grapple. Please read and understand this manual in its entirety before performing installation, operation, or maintenance procedures to ensure the satisfactory performance and durability of the grapple. Read and follow all safety and precautionary notes included in this text. Any questions related to this product should be directed to Grabtec Customer Service at 1-888-857-8952 (712- 477-2675).

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SAFETY STATEMENTS



This statement is used where serious injury or death will result if the instructions are not followed properly.



This statement is used where serious injury or death could result if the instructions are not followed properly.



This statement is used where minor injury could result if the instructions are not followed properly.



This statement is used where equipment or property damage could result if the instructions are not followed properly.

GENERAL PRECAUTIONS

◇ **READ MANUAL PRIOR TO INSTALL or OPERATION**

Improper installation, operation, or maintenance of this equipment could result in serious injury or death. Operators and maintenance personnel should read all manuals related to this equipment thoroughly before beginning installation, operation, or maintenance.

◇ **AVOID ESCAPING FLUID that is under PRESSURE**

Escaping fluid under pressure can penetrate the skin causing serious injury. Relieve pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Keep hands and body away from pinholes and nozzles which eject fluids under high pressure.

◇ **PROTECT AGAINST FLYING DEBRIS**

When driving connection pins, always guard against injury from flying pieces of metal or debris. WEAR GOGGLES OR SAFETY GLASSES.

◇ **SUPPORT RAISED EQUIPMENT**

Do not work under raised loader booms, buckets or grapples without supporting them. Lower booms, buckets and grapples onto blocks.

◇ **DO NOT MODIFY GRAPPLE**

Do not modify the grapple in any way without written authorization and instructions from Grabtec Customer Service at 1-888-857-8952. Modifications may weaken the integrity of the grapple and may impair the function, safety, usable life, and performance of the grapple.

◇ **DO NOT IMPROPERLY USE GRAPPLE**

Grapples are designed to be used as material handling tools for loading or transporting material that can be safely contained in the bucket the grapple is mounted on. Uses outside this method of material handling must be approved by Grabtec Inc.

QUICK-DISCONNECTING THE GRAPPLE FROM THE BUCKET

STEP 1 (See Figure 1)

Drive bucket over level, hard ground and tilt it forward as shown. Move the parking stands to their park position, making sure that the pad of the stand is facing the ground.



◇ **DO NOT STAND IN FRONT OF THE BUCKET AND GRAPPLE WHEN PERFORMING STEP 2. STAND TO THE SIDE.**

STEP 2 (See Figure 2)

Pull out the retaining pins that secure the grapple to the mounts. If the pins are difficult to remove, it may be necessary to tip the bucket forward so that more of the grapple's weight is held by the hook pin.

Fig. 1



Fig. 2



QUICK-DISCONNECTING THE GRAPPLE FROM THE BUCKET

STEP 3 (See Figure 3)

Disconnect the grapple hydraulic hoses from the auxiliary supply.

STEP 4 (See Figure 4)

Lower the bucket and grapple to the ground so that the stand legs and the outer curved edge of the teeth touch the ground at about the same time.

STEP 5 (See Figure 5)

Rotate the bucket to un-hook the mounts from the hook pins of the grapple and back away.



Fig. 3



Fig. 4



Fig. 5

QUICK-CONNECTING THE GRAPPLE TO THE BUCKET

STEP 1 (See Figure 1)

Approach the grapple with the floor of the bucket nearly straight up and down.

STEP 2 (See Figure 2)

Hook the mounts of the bucket into the hook pins of the grapple and begin rotating the bucket until the grapple sleeve is aligned with the upper holes on the mounts.

STEP 3 (See Figure 3)

Insert the retaining pins that secure the grapple to the mounts. If the pins are difficult to install, it may be necessary to tip the bucket forward so that more of the grapple's weight is held by the hook pin.



Fig. 1



Fig. 2



Fig. 3

QUICK-CONNECTING THE GRAPPLE TO THE BUCKET

STEP 4 (See Figure 4)

Connect the grapple hydraulic hoses to the auxiliary supply.

STEP 5 (See Figure 5)

Place the stand legs in their store position.



Fig. 4



Fig. 5

MAINTENANCE

NOTE

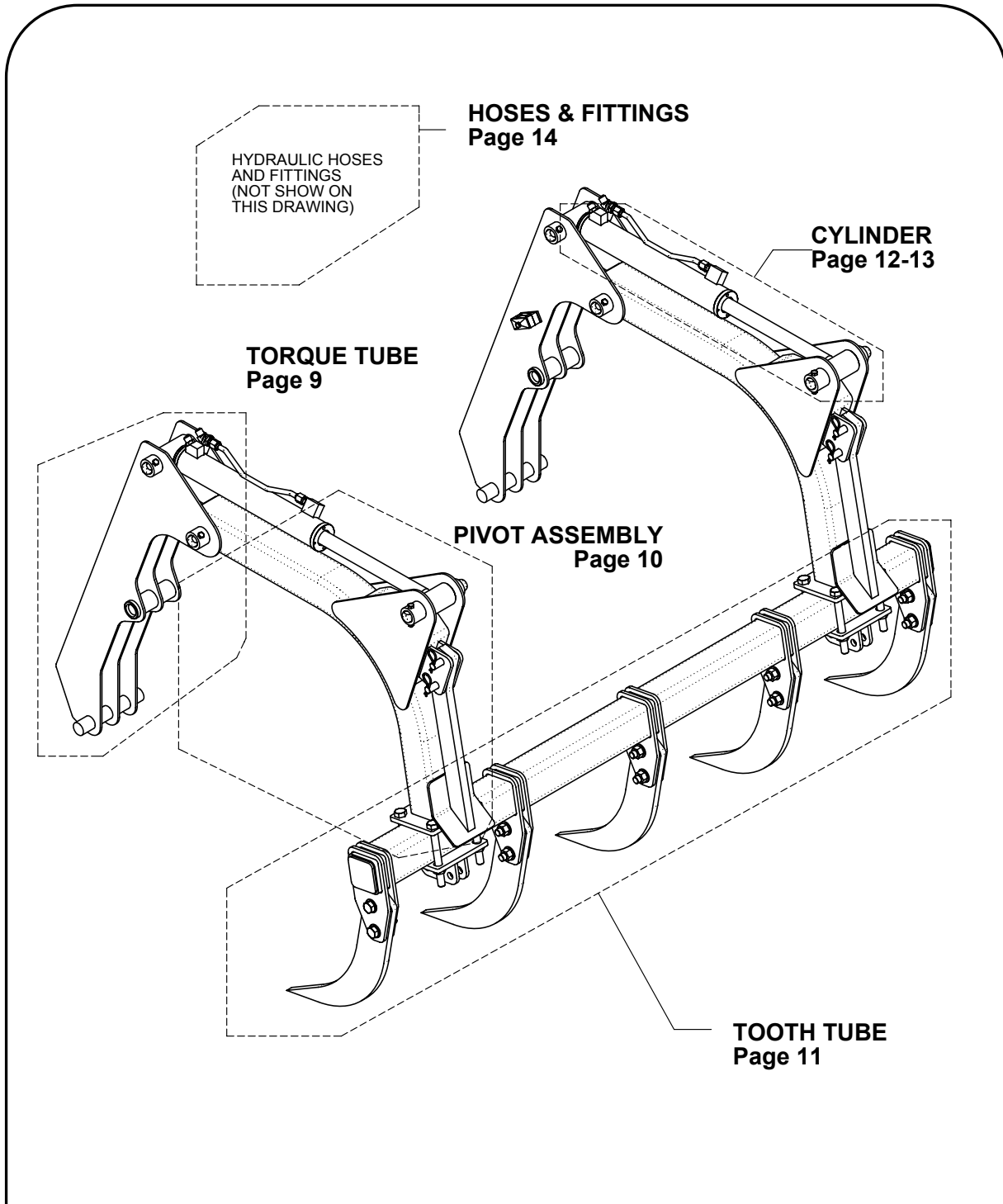
The pivots on each end of the cylinders and the main pivots for the grapple frame are equipped with zero-maintenance bushings. There are no grease zerks on the grapple. Each end of the bushing housings are equipped with wiper-style dust seals to keep out debris. This pin system has proven to provide years and years of service in severe duty environments, provided the following precautions are met:

- ◇ **IF YOU REMOVE A PIVOT PIN, MAKE SURE IT IS CLEAN AND DRY BEFORE YOU REINSTALL IT.**
- ◇ **IF YOU REMOVE A PIVOT PIN, DO NOT PERFORM ANY GRINDING OR WELDING THAT WOULD ALLOW PARTICLES TO ENTER THE BEARING HOUSING.**
- ◇ **DO NOT ATTEMPT TO LUBRICATE THE PINS WITH ANYTHING.**
- ◇ **IF A DUST SEAL (WIPER SEAL) THAT PROTECTS THE BEARING HOUSING IS DAMAGED, REPLACE IT.**
- ◇ **DO NOT REPLACE A PIVOT PIN WITH ANYTHING OTHER THAN A GRABTEC PIVOT PIN MADE FOR YOUR GRAPPLE MODEL. THE EXTREMELY DURABLE AND HARD CHROME FINISH OF THE GRABTEC PINS IS IMPORTANT FOR THE LIFE OF THE BUSHINGS AND FOR THE RESISTANCE TO CORROSION IN THE PIN HOUSING.**

MAINTENANCE PROCEDURES

PROCEDURE	INTERVAL	NOTES
Check for hydraulic fluid leaks	Daily	Look at hose connections and hose fittings
Check bolt tightness	Daily	Torque 3/4-10 nuts to 310 ft-lbs
Check for build-up around pivot areas	Daily	Remove ice, ground hay or any other debris from all pivot areas.

PARTS INDEX

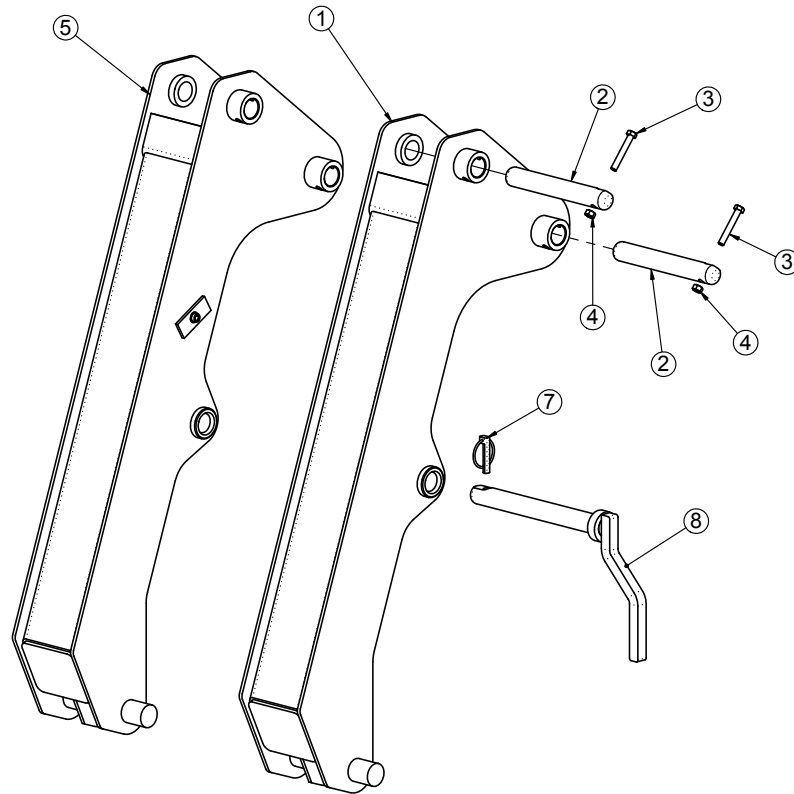


PART INDEX

PRODUCT MODEL: **GF**

DRAWING ID#: GF-S2
DRAWING REVISION: -
DRAWING DATE: 2/10/2009

TORQUE TUBE



'GF' GRAPPLE

'GFD' DEEP-BUCKET GRAPPLE

ITEM NUMBER	PART NUMBER	DESCRIPTION
1	GF002R	TORQUE TUBE, RH
5	GF002L	TORQUE TUBE, LH

ITEM NUMBER	PART NUMBER	DESCRIPTION
1	GF012R	TORQUE TUBE, RH (DEEP BUCKET)
5	GF012L	TORQUE TUBE, LH (DEEP BUCKET)

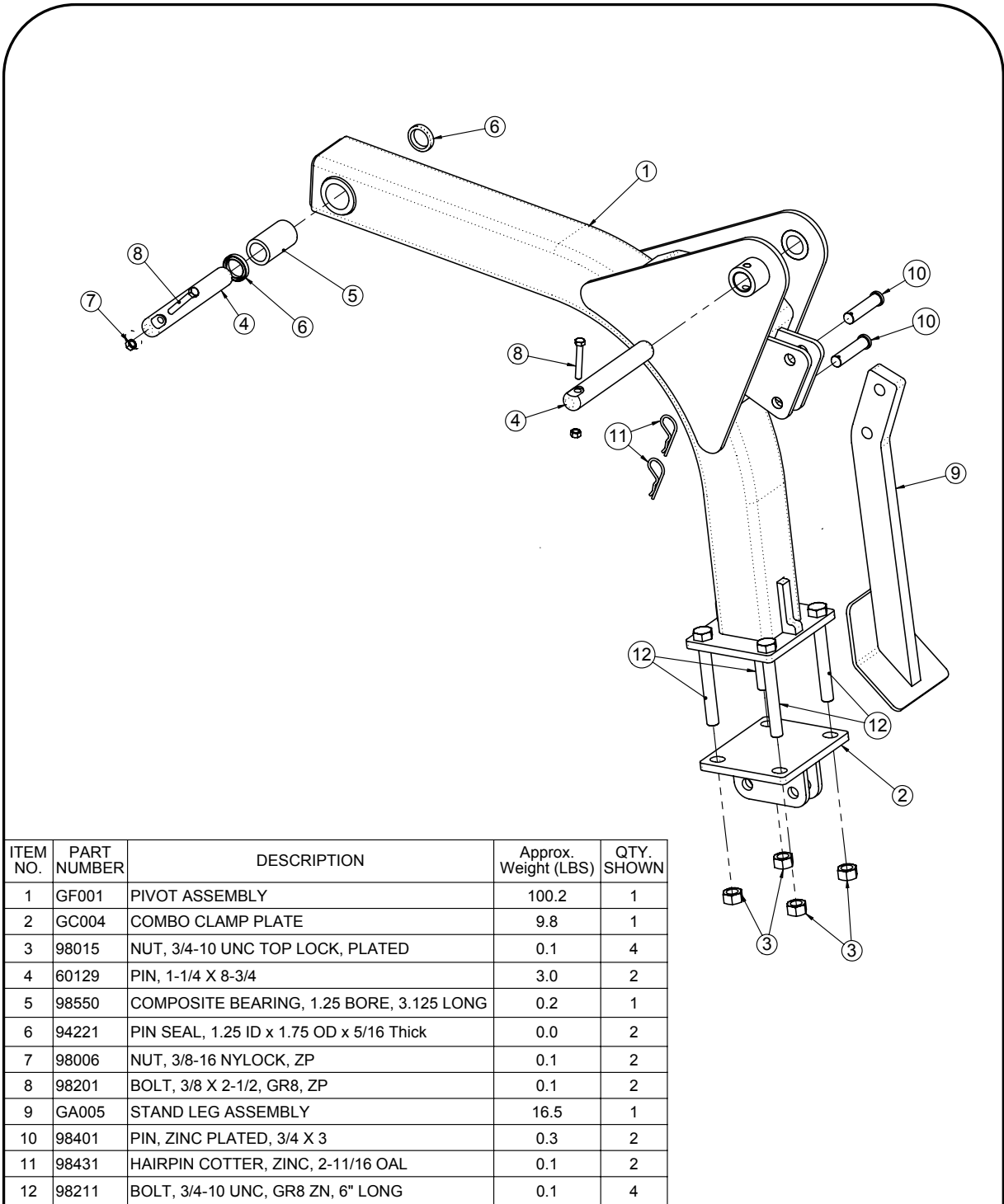
ITEM NO.	PART NUMBER	DESCRIPTION	Approx. Weight (LBS)	QTY. SHOWN
2	60129	PIN, 1-1/4 X 8-3/4	3.0	2
3	98201	BOLT, 3/8 X 2-1/2, GR8, ZP	0.0	2
4	98006	NUT, 3/8-16 NYLOCK, ZP	0.0	2
6	90800	HOSE CLAMP, DUAL, 18MM	0.2	2
7	98441	LYNCH PIN, 7/16 X 1-3/4	0.1	1
8	GC010	LOCK PIN ASSEMBLY	6.0	1

TORQUE TUBE

PRODUCT MODEL: **GF**

DRAWING ID#: GF-S2
 DRAWING REVISION: -
 DRAWING DATE: 1/27/2011

PIVOT ASSEMBLY



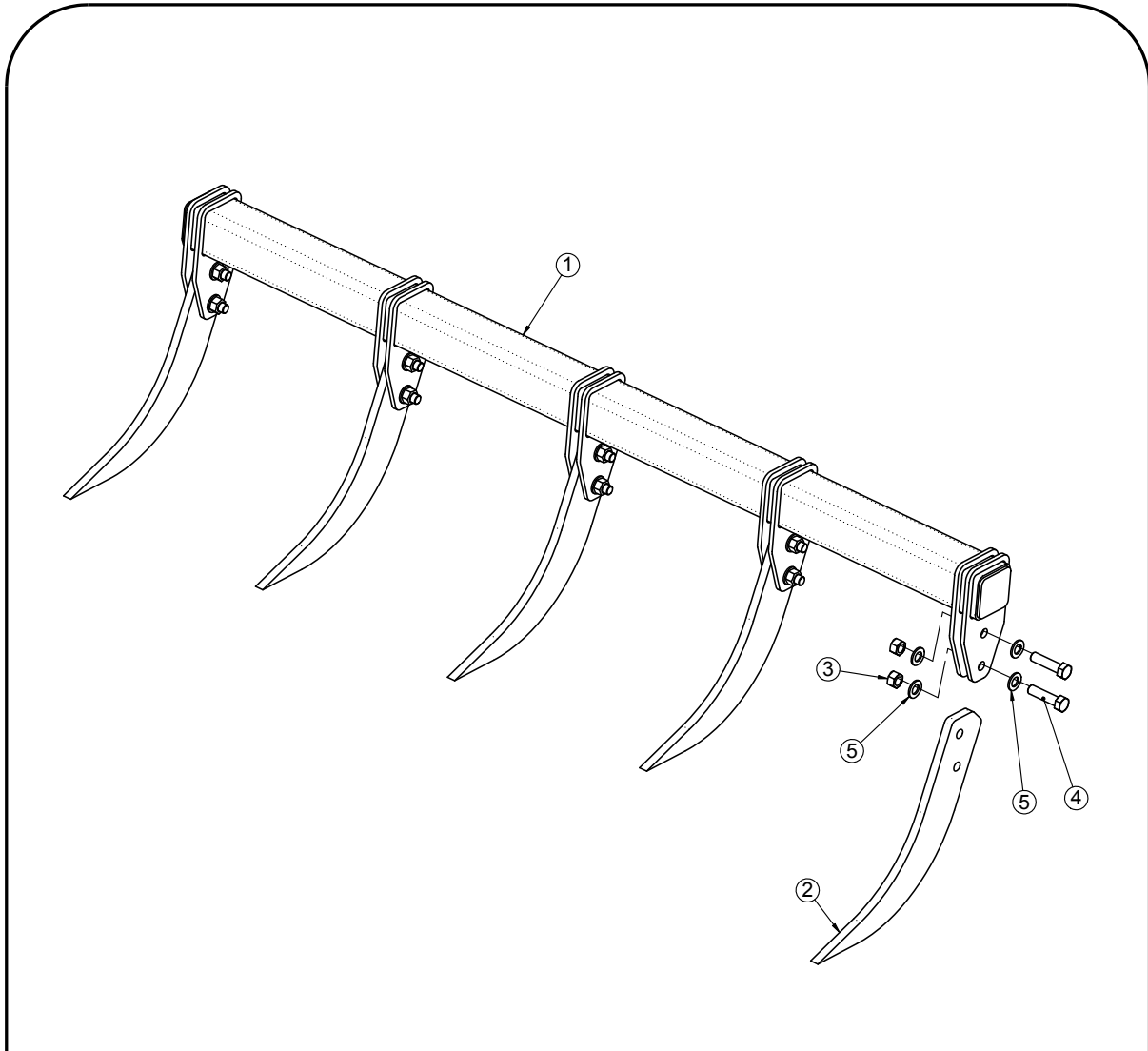
ITEM NO.	PART NUMBER	DESCRIPTION	Approx. Weight (LBS)	QTY. SHOWN
1	GF001	PIVOT ASSEMBLY	100.2	1
2	GC004	COMBO CLAMP PLATE	9.8	1
3	98015	NUT, 3/4-10 UNC TOP LOCK, PLATED	0.1	4
4	60129	PIN, 1-1/4 X 8-3/4	3.0	2
5	98550	COMPOSITE BEARING, 1.25 BORE, 3.125 LONG	0.2	1
6	94221	PIN SEAL, 1.25 ID x 1.75 OD x 5/16 Thick	0.0	2
7	98006	NUT, 3/8-16 NYLOCK, ZP	0.1	2
8	98201	BOLT, 3/8 X 2-1/2, GR8, ZP	0.1	2
9	GA005	STAND LEG ASSEMBLY	16.5	1
10	98401	PIN, ZINC PLATED, 3/4 X 3	0.3	2
11	98431	HAIRPIN COTTER, ZINC, 2-11/16 OAL	0.1	2
12	98211	BOLT, 3/4-10 UNC, GR8 ZN, 6" LONG	0.1	4

PIVOT ASSEMBLY

PRODUCT MODEL: **GF**

DRAWING ID#: GF-S2
 DRAWING REVISION: -
 DRAWING DATE: 2/24/2009

TOOTH TUBE



ITEM NO.	PART NUMBER	DESCRIPTION	Approx. Weight (LBS)	QTY Shown
1	GF351	TOOTH BAR, 5-TOOTH, 83" O.A.L.	116.5	1
1	GF352	TOOTH BAR, 5-TOOTH, 93" O.A.L.	126.5	
1	GF353	TOOTH BAR, 5-TOOTH, 101" O.A.L.	134.5	1

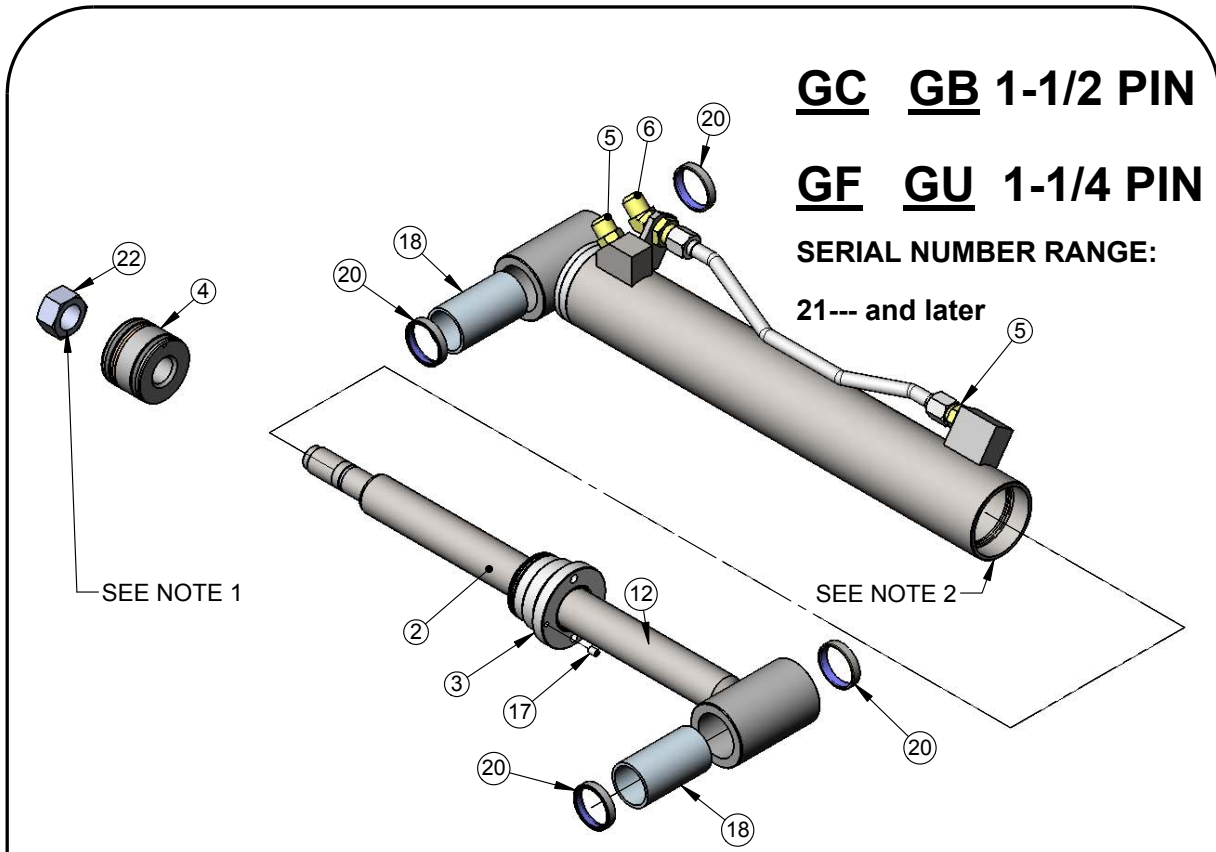
ITEM NO.	PART NUMBER	DESCRIPTION	Approx. Weight (LBS)	QTY Shown
2	60121	TOOTH	16.3	5
3	98015	NUT, 3/4-10 UNC TOP LOCK, PLATED	0.1	10
4	98209	BOLT, 3/4-10 UNC, GR8 ZN, 3" LONG	0.5	10
5	98131	HARDENED WASHER, ZP, 3/4	0.0	20

TOOTH TUBE

PRODUCT MODEL: GF

DRAWING ID#: GF-S2
 DRAWING REVISION: -
 DRAWING DATE: 10/31/2013

CYLINDER, GENERAL



GC GB 1-1/2 PIN

GF GU 1-1/4 PIN

**SERIAL NUMBER RANGE:
21--- and later**

- NOTES:
 1. PUT LIGHT OIL ON THREADS AND TIGHTEN TO 750 FT-LBS.
 2. PUT REMOVABLE (BLUE) THREAD LOCKING ADHESIVE TO THREADS AND TIGHTEN GLAND TO 100-150 FT-LBS WHEN INSTALLING INTO TUBE.

THE PART NUMBER FOR ASSEMBLED CYLINDERS ARE:

GC121 Current GC GB

GF121 Current GF, GU;
GC Before S/N 21686

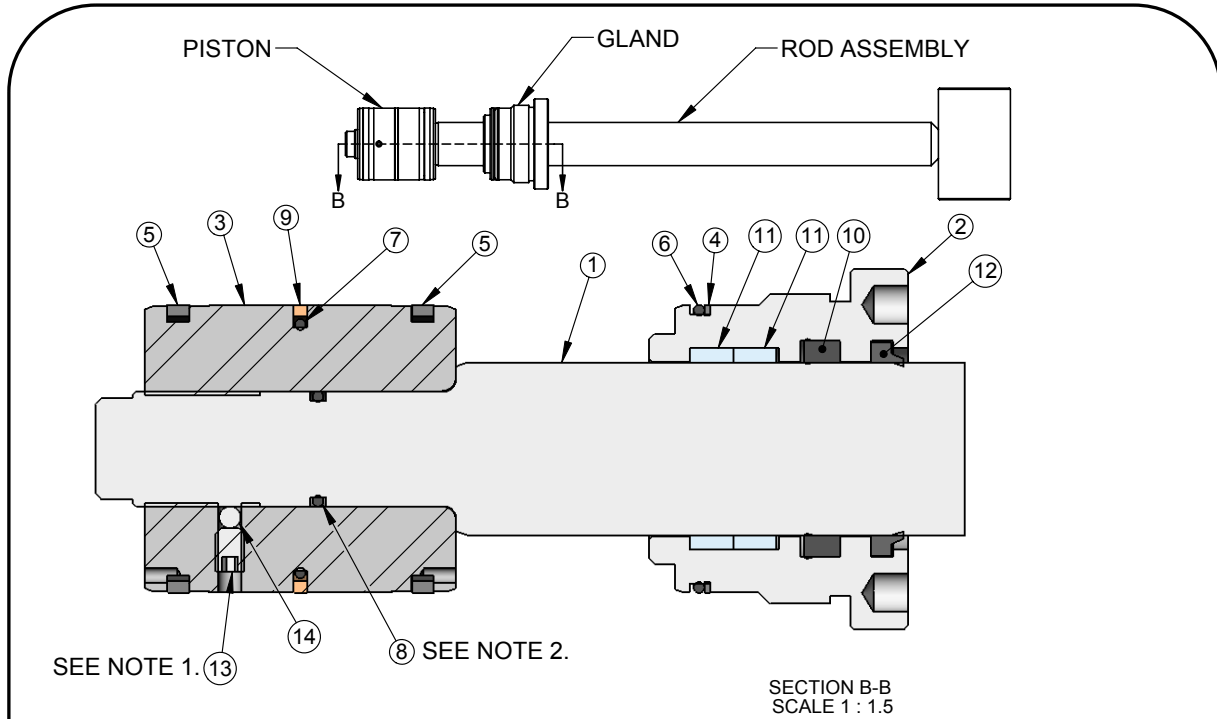
SEAL KIT FOR THIS CYLINDER (SEE NEXT PAGE FOR DETAILS)
PART # 94407

ITEM NO.	PART NUMBER	DESCRIPTION	Approx. Weight (LBS)	QTY. SHOWN
1	GC123	TUBE ASSEMBLY (GC), AGILE	17.3	1
2	GC022	ROD ASSEMBLY	12.2	1
3	90159	GLAND, GC	1.83	1
4	90113	PISTON, GC, OFFSET SEAL, NO THREADS	1.79	1
5	90510C	ADAPTER, -8 MJIC -6MORB	0.12	2
6	90513A	BULKHEAD ADAPTER W/NUT, 45 DEG. MJIC -08	0.35	1
7	GC024	FLUID LINE ASSEMBLY, GC	0.49	1
12	94121	O-RING, -117, 13/16 ID X 1 OD, N70	0.00	1
17	98712	SOCKET SET SCREW, CUP 1/4-20 X 3/8 LONG	0.0	1
18	98650	COMPOSITE BEARING, 1.50 BORE, 3.125 LONG	0.2	2
-	98550	COMPOSITE BEARING, 1.25 BORE, GF, GU, GC BEFORE S/N 21686		
20	94223	PIN SEAL, 1.50 ID x 1.75 OD x 3/8 Thick	0.0	4
-	94221	PIN SEAL, 1.25 ID x 1.75 OD GF, GU, GC BEFORE S/N 21686		
22	98016	NUT, 1-14 UNF GR8 TL, PLAIN	0.3	1

GC121-GF121 CYLINDER PARTS, GENERAL

PRODUCT MODEL:	DRAWING ID#: GC121S RevB
	DRAWING REVISION:
	DRAWING DATE: 10/31/2013

CYLINDER, DETAIL



SEE NOTE 1. (13) (14) (8) SEE NOTE 2.

SECTION B-B
SCALE 1 : 1.5

NOTES:

1. TIGHTEN SET SCREW (ITEM 13) UNTIL THE NYLON BALL (ITEM 14) DEFORMS INTO THE THREADS OF THE ROD STEM (ITEM 1).
2. THE (2) SMALL BACK-UP WASHERS THAT COME IN THE SEAL KIT AND ARE THE SAME DIAMETER AS THIS O-RING ARE NOT NECESSARY IF THE GROOVE IN THE STEM OF THE ROD IS .142 WIDE. IF THE GROOVE IS .242 WIDE, THEN THE BACK-UP WASHERS ARE USED - ONE ON EACH SIDE OF THE O-RING.

ITEM NO.	PART NUMBER	DESCRIPTION	Approx. Weight (LBS)	QTY	Included with Seal Kit 94407?
1	GC022	ROD ASSEMBLY	12.2	1	N
2	90159	GLAND, GC	1.83	1	N
3	90109	PISTON, GC	2.66	1	N
4	94107	BACK UP RING, -141, 2-1/2" OD	0.00	1	Y
5	94192	CAST IRON RING, 2-1/2" OD X 3/16" WIDE	0.02	2	N
6	94123	O-RING, -141, 2-5/16 ID X 2-1/2 OD, N70	0.00	1	Y
7	94122	O-RING, -137, 2-1/16 ID X 2-1/4 OD, N70	0.00	1	Y
8	94121	O-RING, -117, 13/16 ID X 1 OD, N70	0.00	1	Y
9	94154	POLYHONE (HYTREL), 2.50 OD	0.00	1	Y
10	94170	SEAL, U-CUP, 1.5 X 1.875 X 5/16	0.01	1	Y
11	94185	WEAR RING, ROD, 1-1/2 X 3/8" WIDE	0.02	2	Y
12	94212	WIPER, 1.50 ROD, TYPE "D"	0.01	1	Y
13	98712	SOCKET SET SCREW, CUP 1/4-20 X 3/8 LONG	0.0	2	N
14	90313	NYLON BALL, 3/16, GRADE 2	0.00	1	N

**SEAL KIT FOR THIS CYLINDER
PART # 94407**

GC121 CYLINDER PARTS, DETAIL

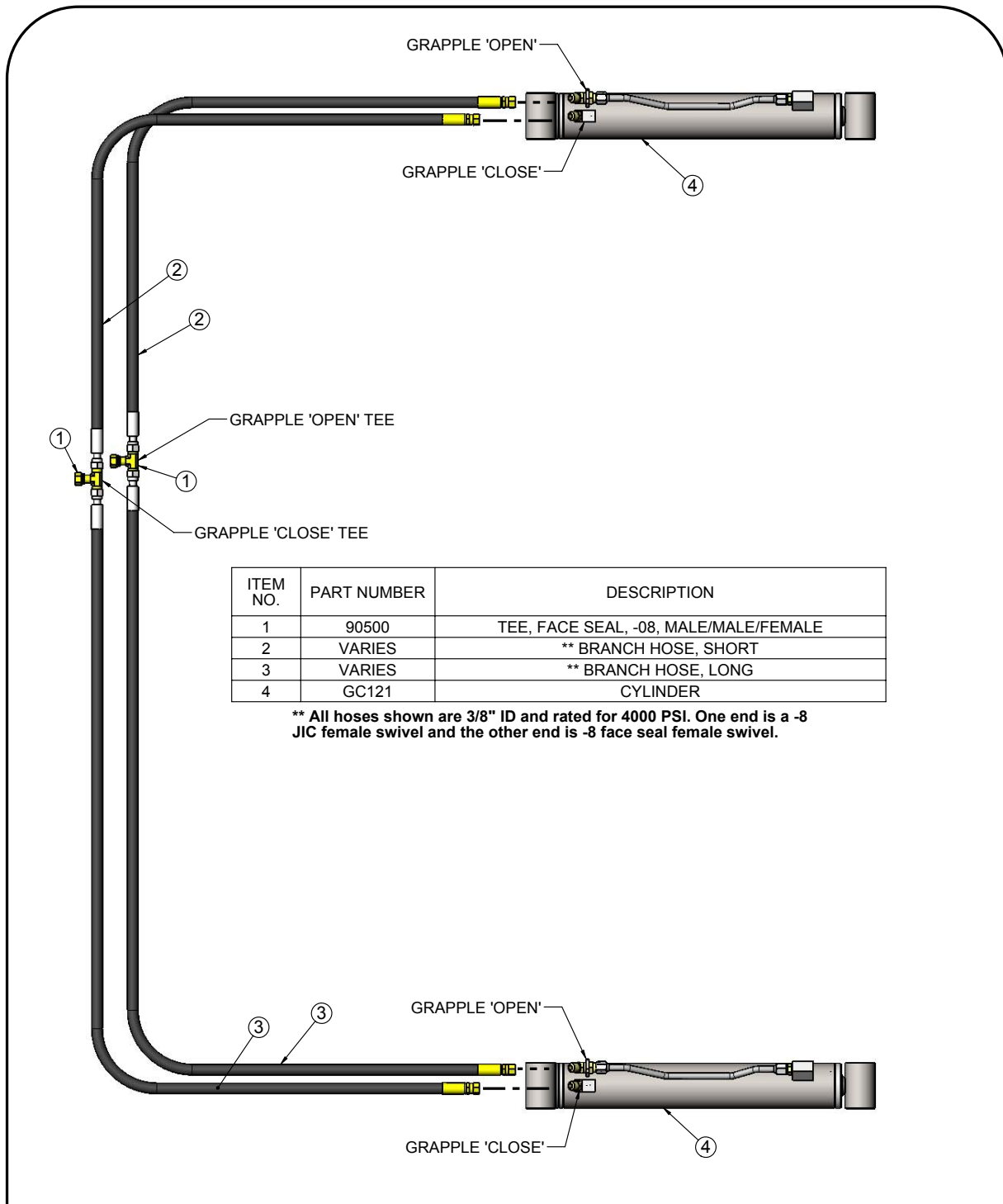
PRODUCT MODEL:

DRAWING ID#: GC121S

DRAWING REVISION: -

DRAWING DATE: 2/9/2009

HOSE CONNECTIONS



ITEM NO.	PART NUMBER	DESCRIPTION
1	90500	TEE, FACE SEAL, -08, MALE/MALE/FEMALE
2	VARIES	** BRANCH HOSE, SHORT
3	VARIES	** BRANCH HOSE, LONG
4	GC121	CYLINDER

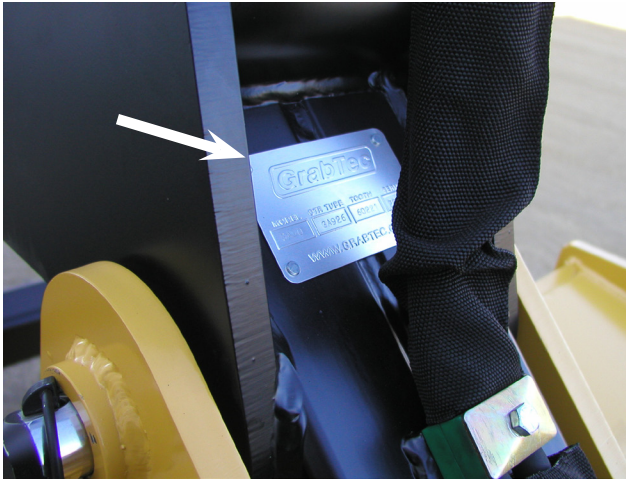
**** All hoses shown are 3/8" ID and rated for 4000 PSI. One end is a -8 JIC female swivel and the other end is -8 face seal female swivel.**

HOSES

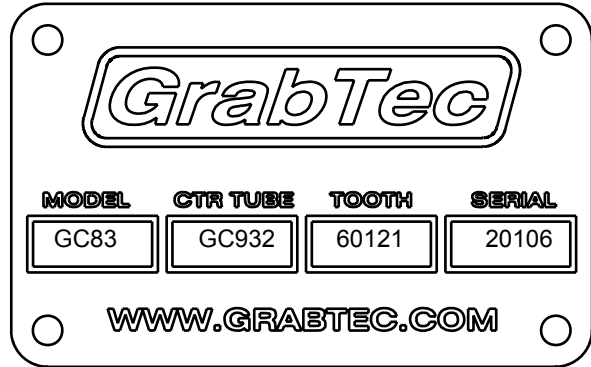
PRODUCT MODEL: GF, GC,GB

DRAWING ID#: GF-S2
 DRAWING REVISION: -
 DRAWING DATE: 2/10/2009

IDENTIFYING YOUR GRAPPLE MODEL & SERIAL



The Serial plate is typically found on the rear of the right side torque tube.



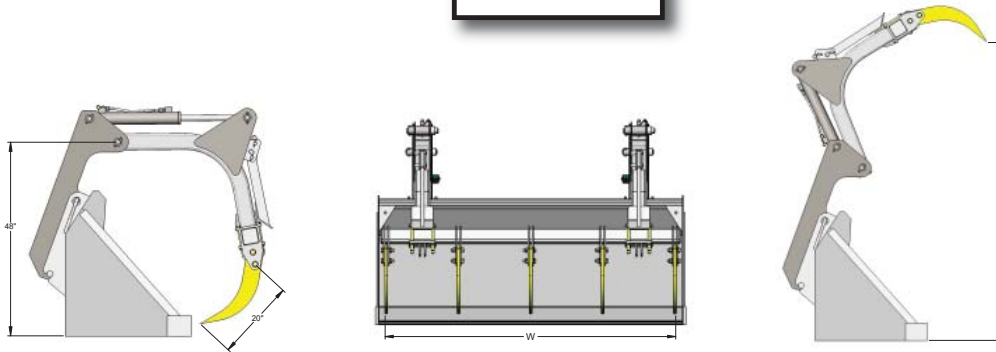
The serial plate shows the Model and Serial number of your grapple. The plate also shows the part numbers for a replacement Center tube or replacement tooth.

PRODUCT CHANGES AND SERIAL BREAK INFO

Revision ID	Models Affected	Starting Serial #	Ending Serial #	Revision Details	Parts Affected	See Pages
-	GF	18000		None - original design	N/A	N/A

SPECIFICATIONS

MODEL "GF"



General Specifications for Model 'GF' Grapple	
Max. Opening, Ground to teeth	83"
Number of Teeth available	5
Tooth thickness and material	3/4" Gr. 80 (80,000 psi yield) steel
Teeth replaceable?	yes, each tooth secured by (2) 3/4" Gr. 8 bolts
Max. Clamping force at tips of teeth with 3000 psi	5,400 lb.
Grapple opening time with 15GPM	1.6 sec. (flow to cylinders is not restricted. Cylinders feature internal hydraulic cushioning at end of stroke in both directions)
Bore and stroke of cylinders	2.50 inch bore and 14.9" stroke
Maximum rated pressure	3,000 psi
Diameter of main grapple pivot pins	1.25"
Diameter of cylinder pivot pins	1.25"
Pivot pin bushing and seal info	Self-Lubricating, zero-maintenance, replaceable bushings with dust seals on each on of bushing.
General type of steel used for grapple construction	T-1 (100,000 psi yield) and Grade 80 (80,000 psi yield)
Limited Warranty on Grapple material and workmanship	1 year or 2,000 hours, whichever comes first
Limited Warranty on pivot bushings	3 years or 5,000 hours, whichever comes first

'GF' QUICK-ATTACH MODELS			
MODEL	GRAPPLE WIDTH [W]	NO. of TEETH	INSTALLED WEIGHT
GF81	81"	5	875 lbs
GF99	99"	5	900 lbs

WARRANTY



1242 Arizona Ave
Larchwood, IA 51241
712-477-2675
888-857-8952
712-477-2500 FAX

Grabtec warrants its grapples against faulty design, material, and workmanship for a period of one year from date of delivery or 2,000 hours, whichever comes first. The composite bushings located at cylinder and grapple pivot points are warranted against breakage or loss of their self-lubricating properties for three years or 5,000 hours, whichever comes first. Refer to the Maintenance section of the Owner's Manual for proper care and precautions concerning the pivot bushings. The warranted coverage on the grapples or pivot bushings is for the parts only, not for labor to disassemble or reassemble the grapple or to remove or reinstall the bushings or for shipping costs.

If Grabtec installs the mounts on the bucket, Grabtec warrants the mounts against faulty design, material, or workmanship for a period of one year from date of delivery or 2,000 hours, whichever comes first. If Grabtec does not install the mounts, Grabtec warrants the mounts against faulty material for a period of one year from date of delivery or 2,000 hours, whichever comes first.

If Grabtec provides mounts that were designed with information supplied by the customer, Grabtec will not warranty the mounts against improper fitment. Grabtec will make every effort to design mounts that fit with minimal reshaping, but accepts no responsibility for the customer's ability to take accurate measurements of the bucket. If Grabtec provides mounts based on the fact that the customer's bucket is one that Grabtec has previously designed mounts for, Grabtec accepts no responsibility on manufacturing tolerances or design changes to the bucket made by the bucket manufacturer that result in mounts that do not fit without a significant amount of reshaping.

OEM components not manufactured by Grabtec are warranted by Grabtec against failure from improper installation for one year from date of delivery date. Examples of OEM components would be cylinders and cylinder components, hose clamps, hoses, and assembly hardware such as bolts and nuts.

Dealer labor rate charges on approved repairs shall not exceed 70% of dealer regular hourly rate. Overtime charges need prior written approval. Claims received 30 days past the repair date will not be considered for warranty.

Warranty is void if grapples are modified in any manner without PRIOR expressed written permission from Grabtec.

RETURN POLICY



1242 Arizona Ave
Larchwood, IA 51241
712-477-2675
888-857-8952
712-477-2500 FAX

RETURNED GOODS POLICY – PARTS

Items **SHIPPED** in error

Grabtec will accept returned items, with prior approval of Grabtec (see RGA paragraph below), within 30 days after shipment without a restocking charge, freight collect.

Items **ORDERED** in error

When parts are incorrectly ordered and returned to Grabtec, the customer is responsible for freight costs and a 15% restocking fee.

When parts are purchased without reference to a model or serial number and returned to Grabtec, the customer is responsible for freight costs and a 15% restocking fee.

RGA- Returned Goods Authorization

All return items must have prior approval of Grabtec and be assigned an RGA (Returned Goods Authorization) number by either the Grabtec sales or parts department and must be returned within 30 days of request.