MODEL G8712/G8713
ENGINE CRANE
INSTRUCTION SHEET

G8712 Shown

#CR11160 PRINTED IN CHINA

⚠ WARNING!

This manual provides critical safety instructions on the proper setup, operation, maintenance and service of this machine/equipment.

Failure to read, understand and follow the instructions given in this manual may result in serious personal injury, including amputation, electrocution or death.

The owner of this machine/equipment is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, blade/cutter integrity, and the usage of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.

⚠ WARNING!

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- **Lead from lead-based paints.**
- **Crystalline silica from bricks, cement and other masonry products.**
- **Arsenic and chromium from chemically-treated lumber.**

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

⚠WARNING
Safety Instructions for Engine Cranes

1. **PREVENTING CRANE DAMAGE.** Do not overload this engine crane beyond its load rating.
2. **SUPPORTING LOAD SAFELY.** Never allow anyone to work under a load supported by an engine crane. NEVER allow the engine crane to be the sole support for the load. Use jack stands to support the load.
3. **CORRECT WORK AREA.** ONLY use this engine crane on a hard level surface capable of sustaining the load being lifted.
4. **USING ACCESSORIES.** Only connect lifting hooks, fasteners, chains, or straps at points that can safely support the load and prevent unpredictable load swing or shift.
5. **SAFE WORK AREA.** Always make sure that when the engine or load is about to be hoisted that the floor is clean and all tripping hazards are removed.
6. **REMOVING ENGINE SAFELY.** Apply the parking brake, and use wheel chocks against the tires to prevent accidental rolling when engines are being removed or installed.
7. **INSTALLING ENGINE SAFELY.** Keep as much of your body as possible out from underneath the vehicle when reinstalling the engine.
8. **USING THE CORRECT MACHINERY.** Never modify this engine crane or use boom extensions. Use the correct machinery for the task at hand.
9. **SERVICE SAFETY.** Any engine crane cylinder repair must only be performed by a qualified hydraulic specialist.
10. **LOWERING LOAD SAFELY.** Never lower the boom quickly so the load drops and slams onto a pallet or the floor.
11. **KEEPING CHILDREN SAFE.** Never allow children to play with or near the engine crane while in use or in storage.
12. **PREVENTING CRANE TIPPAGE.** Never attempt to roll the engine crane with the boom in the raised position, or the load and crane may tip due to a high center of gravity. Only move with the load as low as possible.

⚠WARNING

Like all machinery there is potential danger when operating this machine. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this machine with respect and caution to decrease the risk of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

⚠CAUTION

No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so could result in serious personal injury, damage to equipment, or poor work results.

Specifications

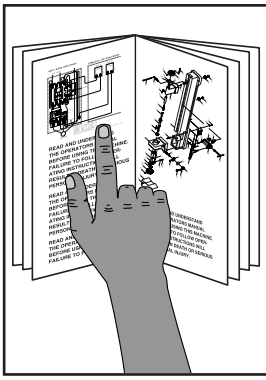
Model: G8712 FOLDING ENGINE CRANE

- Maximum Load (Boom Retracted): 2-Tons.
- Maximum Load (Boom Extended): ½-Ton.
- Base Length: 72 3/8".
- Base Width: 40 1/4".
- Maximum Height: 95 1/4" (at ½ Ton).
- Maximum Height: 82 1/2" (at 2 Tons).

Model: G8713 ENGINE CRANE

- Maximum Load (Boom Retracted): 2-Tons.
- Maximum Load (Boom Extended): ½-Ton.
- Base Length: 92".
- Base Width: 51".
- Maximum Height: 98" (at ½ Ton).
- Maximum Height: 98" (at 2 Tons).

Setup Safety



⚠WARNING

This machine presents serious injury hazards to untrained users. Read through this entire manual to become familiar with the controls and operations before starting the machine!

⚠WARNING

Wear safety glasses during the entire setup process!

⚠WARNING

This machine and its components are very heavy. Get lifting help or use power lifting equipment such as a forklift to move heavy items.

Items Needed for Setup

The following items are needed to complete the setup process, but are not included with your machine:

Description	Qty
• Assistant	1
• Safety Glasses	1
• Wrench 22mm	1
• Wrench 25mm	1
• Wrench 27mm	1
• Crescent Wrench	1

Unpacking

Your machine was carefully packaged for safe transportation. Remove the packaging materials from around your machine and inspect it. If you discover the machine is damaged, *please immediately call Customer Service at (570) 546-9663 for advice.*

Save the containers and all packing materials for possible inspection by the carrier or its agent. *Otherwise, filing a freight claim can be difficult.*

When you are completely satisfied with the condition of your shipment, inventory the contents.

⚠WARNING

SUFFOCATION HAZARD!

Immediately discard all plastic bags and packing materials to eliminate choking/suffocation hazards for children and animals.

If any nonproprietary parts are missing (e.g. a nut or a washer), we will gladly replace them; or for the sake of expediency, replacements can be obtained at your local hardware store.

Model G8712 Inventory

Box 1: (Figure 1)	Qty
A. Frame Base	1
B. Hydraulic Ram	1
C. Pump Handle	1

Box 2: (Figure 1)	Qty
D. Front Leg	2
E. Boom	1
F. Boom Extension	1
G. Chain w/Hook	1
H. Main Support Post	1
I. Support Straps	2
J. Hardware Box	1
—Hex Bolt M14-2 x 110 (Support Straps)	2
—Hex Bolt M16-2 x 120 (Support Straps)	2
—Hex Bolt M14-2 x 100 (Support Post)	2
—Hex Bolt M16-2 x 85 (Ram)	1
—Hex Bolt M14-2 x 80 (Chain w/Hook)	1
—Hex Bolt M16-2 x 70 (Boom)	1
—Hex Bolt M18-2.5 x 110 (Boom)	1
—Hex Bolt M16-2 x 90 (Boom Extension)	1
—Frame Pin W/Cotter Pin (Front Legs)	4
—Hex Nut M14-2 (Hardware)	5
—Hex Nut M16-1.5 (Hardware)	5
—Hex Nut M18-2.5 (Hardware)	1
—Flat Washer 14mm (Hardware)	5
—Flat Washer 16mm (Hardware)	5
—Flat Washer 18mm (Hardware)	1

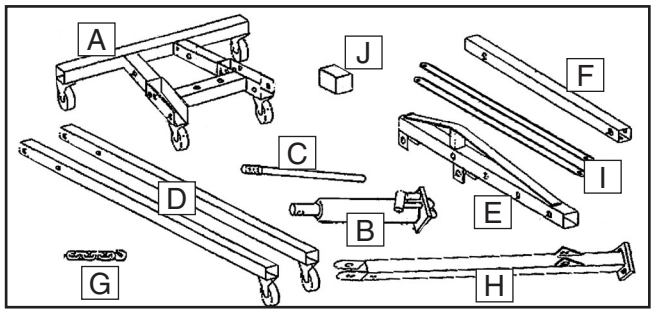


Figure 1. G8712 Inventory.

NOTICE

If you can't find an item on this list, check the mounting location on the machine or examine the packaging materials carefully. Occasionally we pre-install certain components for shipping purposes.

Model G8713 Inventory

Box 1: (Figure 2)	Qty
A. Rear Support	1
B. Rear Legs w/Casters	1
C. Intermediate Legs	1

Box 2: (Figure 2)	Qty
D. Front Legs w/Casters	2
E. Support Straps	1
F. Hydraulic Ram	1
G. Pump Handle	1

Box 3: (Figure 2)	Qty
H. Chain w/Hook	1
I. Main Support Post	1
J. Boom	1
K. Boom Extension	1
L. Cross Tube	1
M. Hardware Box	1
—Hex Bolt M14-2 x 120 (Cross Tube)	2
—Hex Bolt M16-2 x 90 (Boom Extension)	1
—Hex Bolt M14-2 x 80 (Legs Front/Rear)	5
—Hex Bolt M16-2 x 70 (Boom)	1
—Hex Bolt M14-2 x 100 (Straps/Post)	4
—Hex Bolt M16-2 x 110 (Straps)	2
—Hex Bolt M16-2.5 x 100 (Rear Support)	2
—Hex Bolt M16-2 x 90 (Ram)	1
—Hex Bolt M20-2.5 x 120 (Boom)	1
—Hex Nut M14-2 (Hardware)	11
—Hex Nut M16-1.5 (Hardware)	7
—Flat Washer 14mm (Hardware)	11
—Flat Washer 16mm (Hardware)	7
—Flat Washer 20mm (Hardware)	1
—Flat Washer 20mm (Hardware)	1

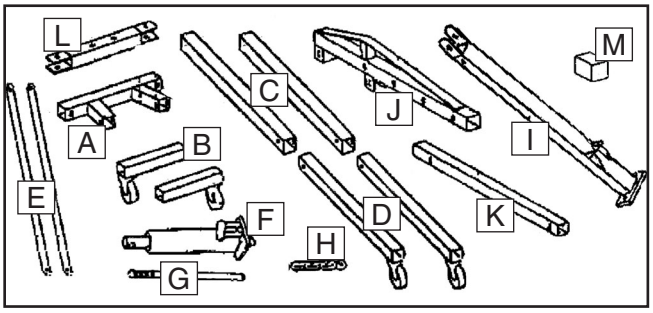
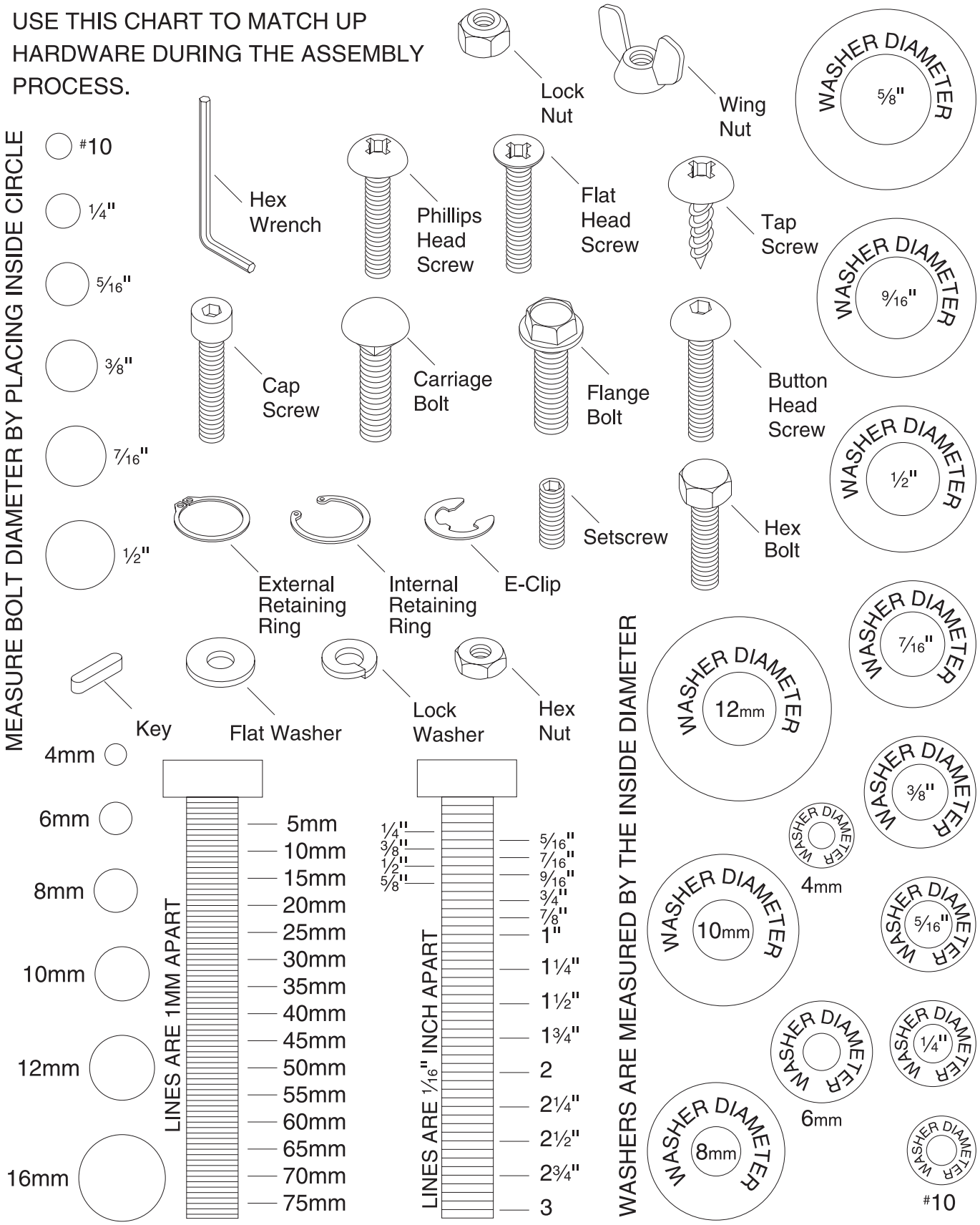


Figure 2. G8713 Inventory.

Hardware Recognition Chart



Assembly (G8712)

To avoid injury when completing these steps, please get the help of an assistant. When completed, your new engine crane will look like the one shown in (**Figure 3**).

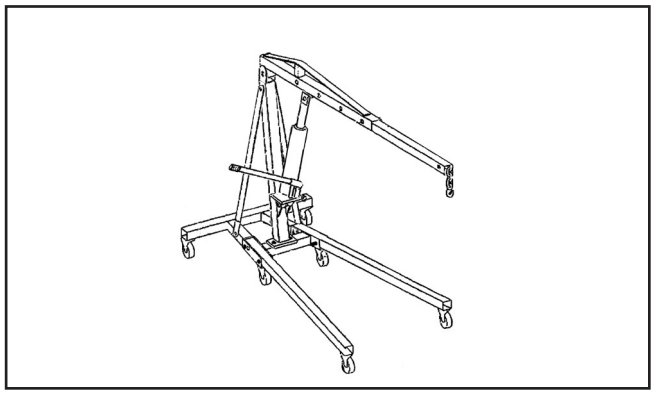


Figure 3. Model G8712 ready for use.

To assemble your crane:

Note: *All fasteners must be kept finger tight until final assembly.*

1. Insert the two legs into the frame base (**Figure 4**), and secure them in place with the four eye pins and cotter pins.

Note: *Each leg has two pins and three pin holes in the frame base (**Figure 4**). **Pin 1** is the pivot pin and remains in hole **A**. **Pin 2** is the removable lock pin—when inserted in hole **B**, the leg is locked in the down position. When the **Pin 2** is inserted in hole **C**, the leg is locked in the raised position.*

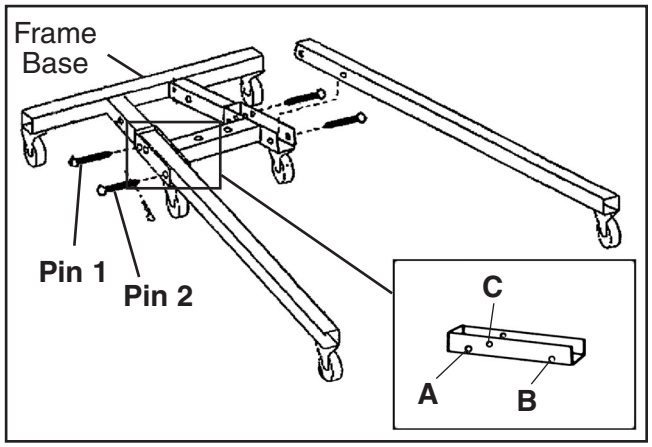


Figure 4. Base assembly.

2. Position the main support post onto the base (**Figure 5**), and secure it in place with two M14-2 x 100 hex bolts, washers, and nuts.

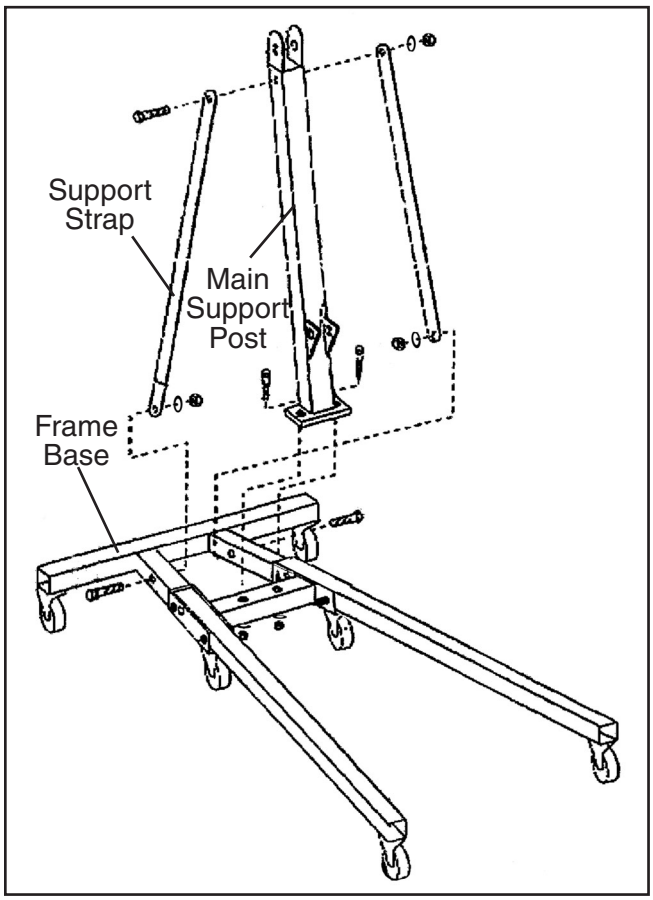


Figure 5. Main support assembly.

3. Install both support straps on the main support post (**Figure 5**) with two M16-2 x 120 hex bolts, washers, and nuts.

4. Connect both support straps to the frame base (**Figure 5**) with two M14-2 x 110 hex bolts, washers, and nuts.

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5. Attach the bottom of the hydraulic cylinder to the pad on the main support post (**Figure 6**) with one M16-2 x 85 hex bolt, washer, and nut.

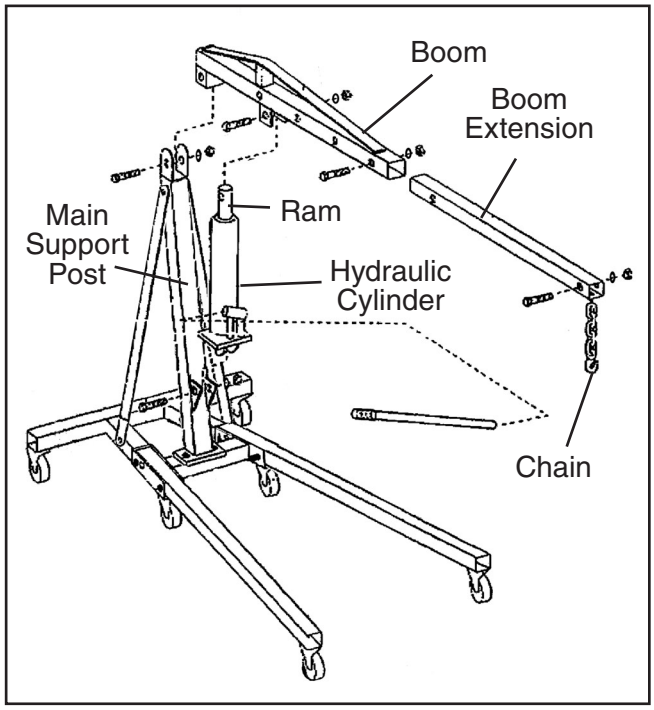


Figure 6. Boom assembly.

6. Install the boom on the top of the main support post (**Figure 6**) with one M18-2 x 110 hex bolt, washer, and nut.

7. While your assistant holds the boom up, connect the ram to the boom (Figure **6**) with one M16-2 x 70 hex bolt.

8. Insert the boom extension into the boom, making sure that the slot for chain is facing down (**Figure 6**).

9. Select one of the four load rating holes in the boom (**Figure 6**), and secure the boom extension in that rated load position with one M16-2 x 90 hex bolt, washer, and nut.

10. Attach the chain to the end of the boom assembly (**Figure 6**) and secure it in place with one M14-2 x 80 hex bolt, washer, and nut.

11. Tighten all fasteners.

12. Make sure hydraulic reservoir is full and bled. Refer to **Maintenance** on **Page 15** for procedures.

Assembly (G8713)

To avoid injury when completing these steps, please get the help of an assistant. When completed, your new engine crane will look like the one shown in (**Figure 7**).

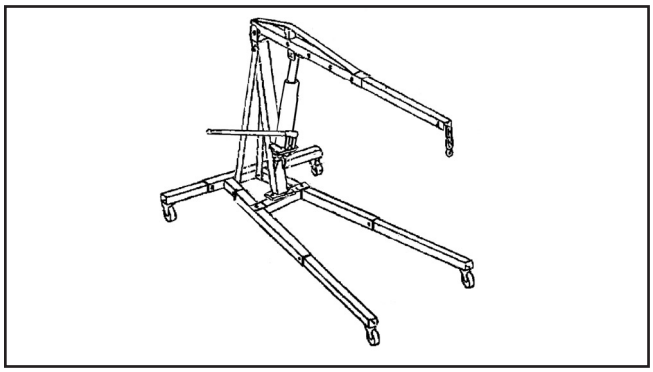


Figure 7. Model G8713 ready for use.

To assemble your crane:

Note: *All fasteners must be kept finger tight until final assembly.*

1. Using two M14-2 x 120 hex bolts, washers, and nuts, connect the two intermediate legs together with the cross tube (**Figure 8**).

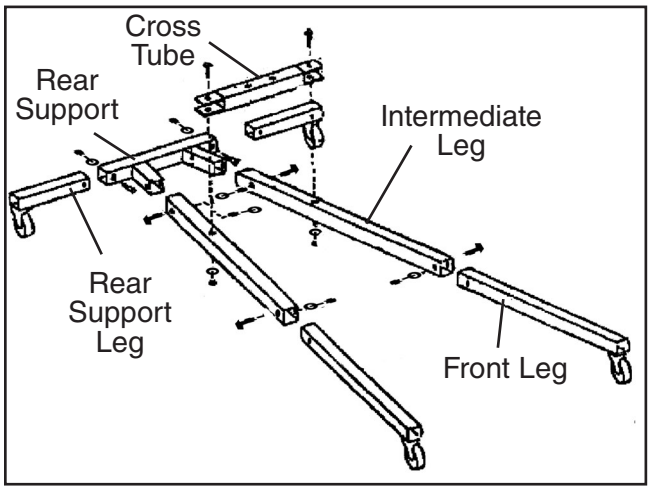


Figure 8. Base assembly.

2. Insert the two intermediate legs into the rear support (**Figure 8**), and secure in place with two M16-2 x 100 hex bolts, washers, and nuts.

3. Insert the rear support legs equipped with casters into each side of the rear support (**Figure 8**), and secure the legs in place with two M14-2 x 80 hex bolts, washers, and nuts.

4. Insert the front legs equipped with casters into each intermediate leg (**Figure 8**), and secure the legs together with two M14-2 x 80 hex bolts, washers, and nuts.

5. Position the main support post onto the cross tube (**Figure 9**), and secure it in place with two M14-2 x 100 hex bolts, washers, and nuts.

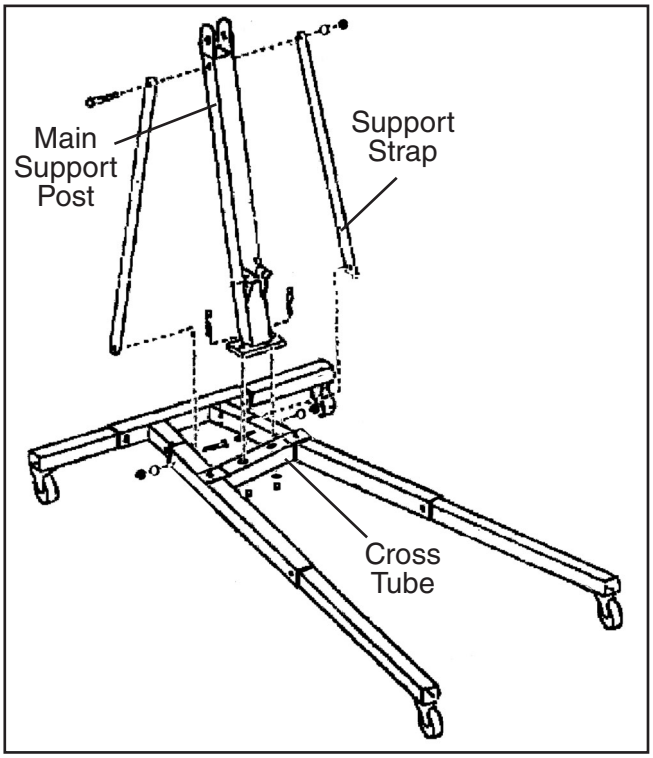


Figure 9. Beam assembly.

6. Install both support straps on the main support post (**Figure 9**) with two M14-2 x 100 hex bolts, washers, and nuts.

7. Connect both support straps to the intermediate legs (**Figure 9**), with two M16-2 x 110 hex bolt, washers, and nuts.

8. Attach the bottom of the hydraulic cylinder to the pad on the main support post (**Figure 10**) with one M16-2 X 90 hex bolt, washer, and nut.

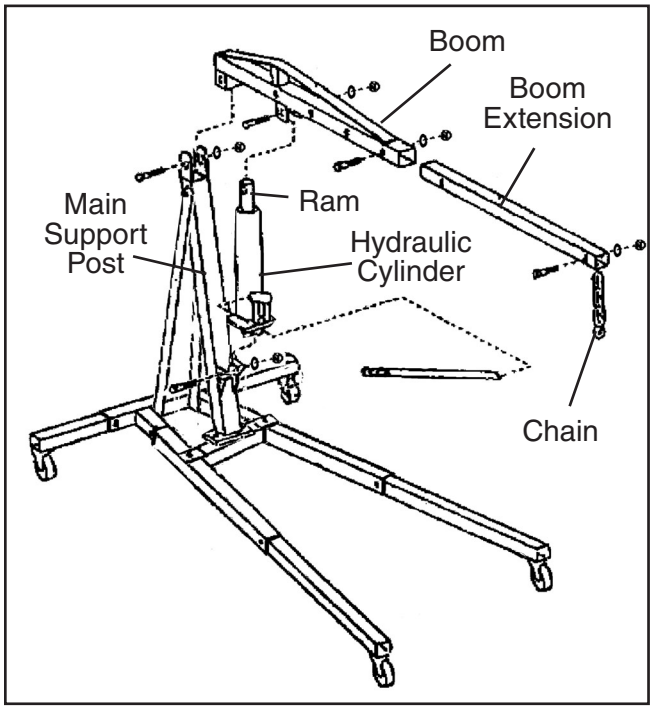


Figure 10. Boom assembly.

9. Install the boom on the top of the main support post (**Figure 10**) with one M20-2.5 X 120 hex bolt, washer, and nut.

10. While an assistant holds the boom, connect the ram to the boom (**Figure 10**) with one M16-2 x 70 hex bolt, washer, and nut.

11. Insert the boom extension into the boom, making sure that the slot for chain is facing down (**Figure 10**).

12. Select one of the four load rating holes in the boom (**Figure 10**), and secure the boom extension in that rated load position with one M16-2 x 90 hex bolt, washer, and nut.

13. Attach the chain to the end of the boom assembly (**Figure 10**), and secure it with one M14-2 x 80 hex bolt, washer, and nut.

14. Tighten all fasteners.

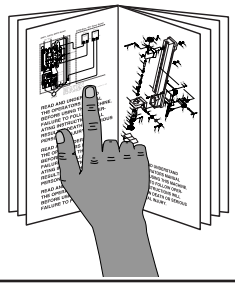
15. Make sure hydraulic reservoir is full and bled. Refer to **Maintenance** on **Page 15** for procedures.

Operation Safety

⚠WARNING

To reduce the risk of property damage, serious personal injury, or death when using this engine crane, take the following precautions:

- **Do not overload this engine crane beyond its load rating.**
- **Never allow anyone to work under a load supported by an engine crane. Use jack stands to support the load.**
- **ONLY use this engine crane on a hard level surface capable of sustaining the load being lifted.**
- **Only connect lifting hooks, fasteners, chains, or straps at points that can safely support the load and prevent unpredictable load swing or shift.**
- **Always make sure that when the engine or load is about to be hoisted that the floor is clean and all tripping hazards are removed.**
- **Always apply the parking brake, and use wheel chocks against the tires to prevent accidental rolling when engines are being removed or installed.**
- **Keep as much of your body as possible out from underneath the vehicle when repositioning or removing jack stands.**
- **Never modify this engine crane.**
- **Any engine crane cylinder repair must only be performed by a qualified hydraulic specialist.**
- **Never lower the boom quickly so the load drops and slams onto a pallet or the floor.**
- **Never allow children to play with or near the engine crane while in use or in storage.**
- **Never attempt to roll the engine crane with the boom in the raised position or the load and crane may tip due to a high center of gravity. Only move with the load as low as possible.**



⚠WARNING

To reduce the risk of serious injury when using this machine, read and understand this entire manual before beginning any operations.

NOTICE

If you have never used this type of machine or equipment before, WE STRONGLY RECOMMEND that you read books, trade magazines, or get formal training before beginning any projects. Regardless of the content in this section, Grizzly Industrial will not be held liable for accidents caused by lack of training.

⚠WARNING

Make sure that the legs are locked in the down position before using the Model G8712 Engine Crane. Ignoring this warning can cause the load and crane to tip and fall causing serious personal injury.

Operation

1. Before using this engine crane, make sure that it is filled with a standard hydraulic oil and that the air is bled from the system.

2. Refer to your vehicle owner's manual to locate the safe lifting/support locations for the engine, and make sure that the load does not exceed the maximum weight for the engine crane.

3. Block the wheels to prevent the vehicle from rolling.

4. Prepare and disconnect the engine/transmission as outlined in the vehicle manufacturer's service manual. Follow all safety precautions.

5. Prepare the engine stand so the engine can be immediately connected and the engine crane removed.

6. Clear all tools away, clean up any slip or tripping hazards, and then position the engine crane over the engine compartment.

⚠WARNING

For the next step, DO NOT open the release valve quickly. If you ignore this warning, the boom may drop fast enough to cause engine damage or serious personal injury.

7. Use the valve control socket at the end of the handle to open and close the release valve, then position the boom at the correct height above the engine.

8. Make all required connections as outlined in vehicle manufacturer's service manual.

9. Verify that the crane path is clear of oil spots, floor dry material, and that the caster wheels will roll without obstruction of any kind including holes in the floor. Take required measures.

   Tip: *Before lifting engine, manually position each caster wheel in the direction of crane movement for engine removal.*

10. While another mechanic assists in guiding and stabilizing the engine, use the engine crane to extract the engine. Only lift the boom high enough so the engine will clear the edge of the engine compartment. If the boom is raised too high, you will create a tipping hazard. Do not allow engine to swing while moving the crane to extract engine.

11. Lower the boom so you can immediately connect the engine to the engine stand and remove the crane. DO NOT leave the engine or any other load suspended on the crane. Make sure that when crane is to be stored it is put away with the boom fully lowered.

⚠WARNING

Before stowing the Model G8712 Engine Crane, make sure that the boom is completely lowered before you attempt to lift and lock the legs. Never lift the boom when the legs are in the stowed position. Ignoring this warning can cause the crane to tip and fall causing serious personal injury.

Accessories

H6227—Load Leveler – 1,500 lb. Use this Load Leveler to adjust the balance point of lifted loads up to 1,500 lbs. Fine thread adjustment and crank handle control make leveling very precise. Ideal for use with engine cranes.

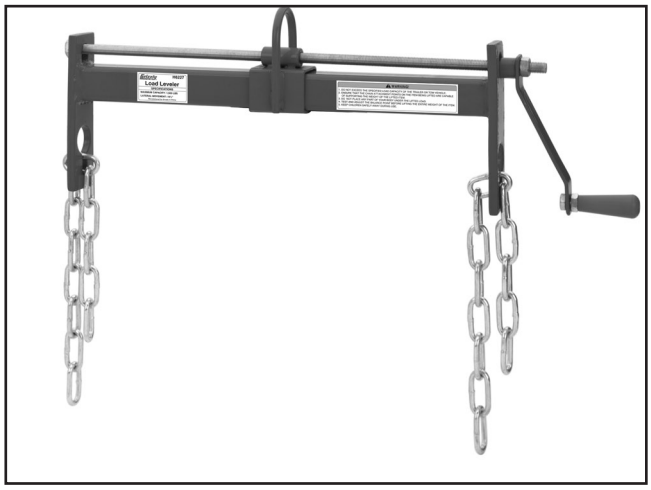


Figure 11. H6227 load leveler – 1,500 lb.

T10028—Pair of Wheel Chocks. Prevent accidental shifting of your vehicle with a pair of these stackable, high impact plastic Wheel Chocks. Just place each chock against the tires and you know your vehicle isn't going anywhere. Great for campers and utility trailers as well as preventing vehicles from shifting during jacking.

Figure 16. T10028 pair of wheel chocks.

T10026—Pair of Wheel Dollies. Too many vehicles and not enough garage? Too hard to roll your rolling chassis? Position your vehicle anywhere you want on a level surface with these Wheel Dollies. Heavy aluminum construction and swivel casters raise the vehicle only 1" above the floor. Simply jack one end of the vehicle up and place a set of dollies under the wheels and repeat for the other end. Sold as pairs.

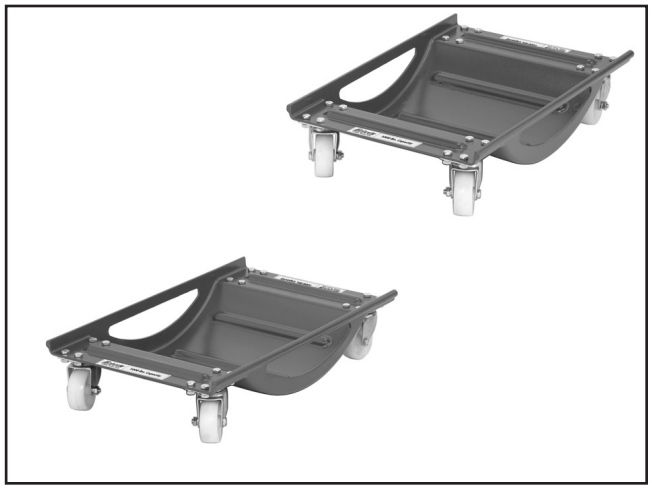


Figure 12. T10026 pair of wheel dollies.

H6236—Low Profile 1000 lb. Transmission Jack. Remove and install vehicle transmissions the easy way with this Low Profile Transmission Jack. A two axis tilt control makes bolt alignment quick and easy and the low profile design and swivel hydraulic jack handle lets you work in cramped locations without any loss of efficiency. Minimum support height is 8" and maximum support height is 22". Features an adjustable support frame and restraint chain. Approx. shipping weight: 83 lbs.

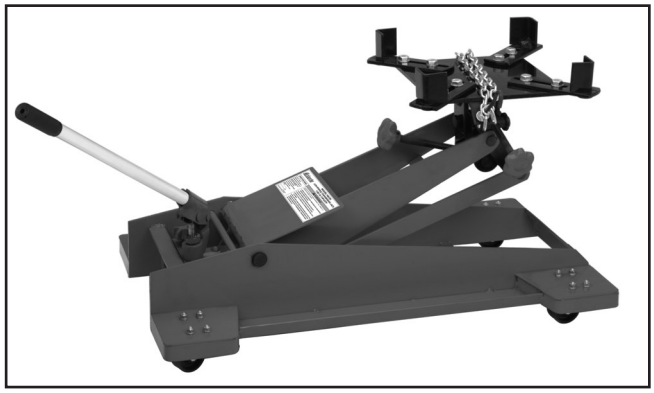


Figure 18. H6236 low profile 1000 lb. transmission jack.

G8722—Engine Stand. This durable tubular steel frame construction provides a stable support for your engine up to 1,250 lbs. It gives easy access all the way around the engine. Support mount can be rotated 360˚ and locked into 7 different positions. Mounting is totally adjustable to accommodate all sizes and configurations of engines.

Figure 15. G8722 engine stand.

H8089—Low Profile Transmission Jack–1250 lbs. This Low Profile Transmission Jack has a lifting range of 6⅝" to 24⅝" and the adjustable support table measures 10 3/16" square. Four iron casters and pivoting handle make positioning this jack under the transmission easy. Approx. shipping weight: 110 lbs.

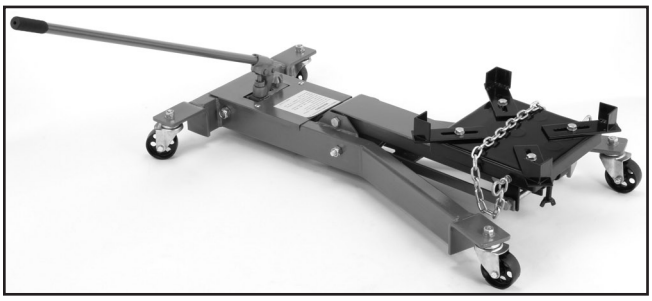


Figure 17. H8089 low profile transmission jack–1250 lbs.

T10030—Folding Engine Stand. When it comes to engine rebuilds, nothing beats the convenience of an engine stand. This stand is made of heavy square tubing, durable steel casters and has folding outriggers to reduce shop space when not in use. Rear mounting attachment points are fully adjustable and an indexed swivel lets you rotate the engine every 45°. Approximate shipping weight: 98 lbs.

Figure 13. T10030 folding engine stand.

H3266—Engine Cleaning Gun. Connect this Engine Cleaning Gun to your air compressor and detergent solution and you've got a highly efficient cleaning tool. Angled tip at the end of a 9" long wand lets you reach difficult areas. Comes with solvent feed hose.

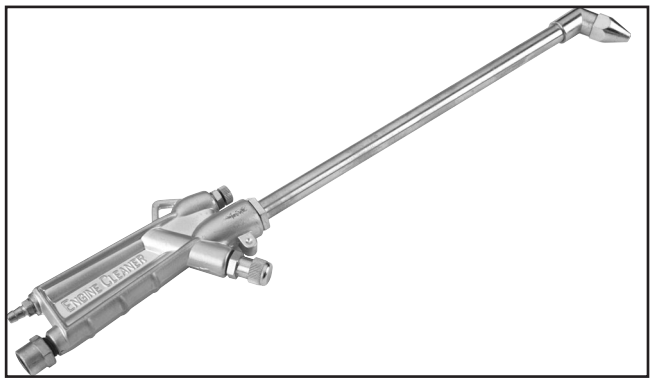


Figure 14. H3266 engine cleaning gun.

Maintenance Schedule

For optimum performance from your machine, follow this maintenance schedule and refer to any specific instructions given in this section.

Daily Check:

- Damaged chain or lifting hardware.
- Worn or damaged wheels.
- Loose or missing fasteners or cotter pins.
- Leaking hydraulic fluid.
- Cracked or broken welds.
- Any other unsafe condition.

Hydraulic Oil Level

1. Lower the boom fully so the ram is completely retracted into the cylinder, and remove the rubber plug (**Figure 19**).

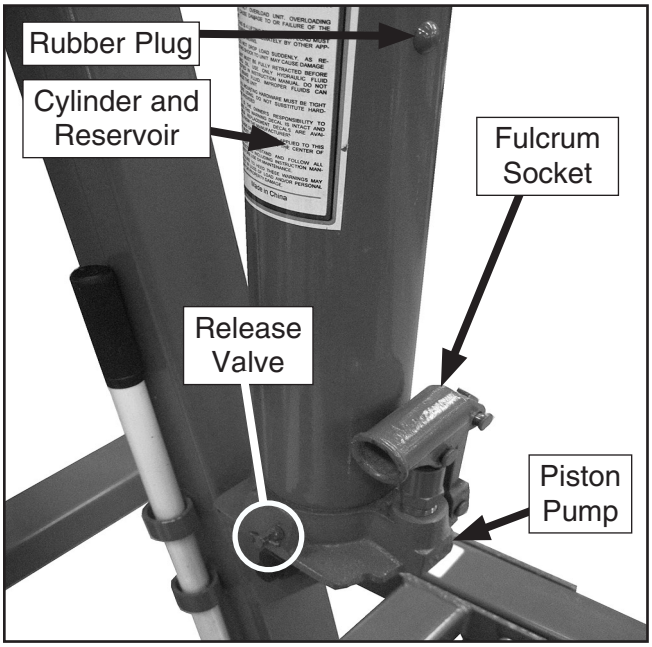


Figure 19. Hydraulic service.

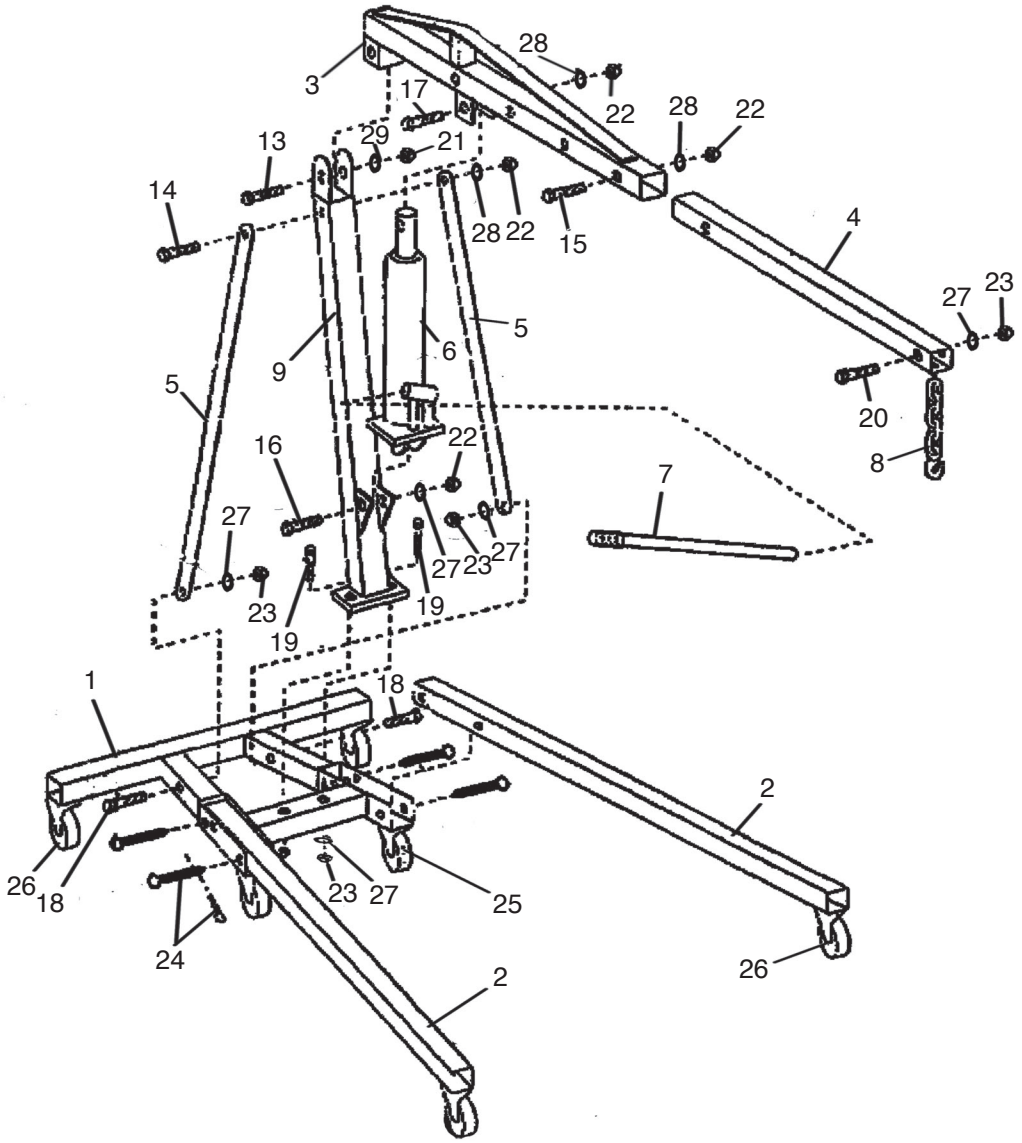
2. Fill the reservoir with any standard hydraulic oil until oil runs from the port, and reinstall the plug.

3. Use the valve control socket at the end of the lift lever to close (turn clockwise) the release valve (**Figure19**).

3. Insert the lever into the fulcrum socket, and jack up the boom to the maximum height to bleed the hydraulic system.

4. Repeat **Steps 1** and **2** to top off the hydraulic oil.

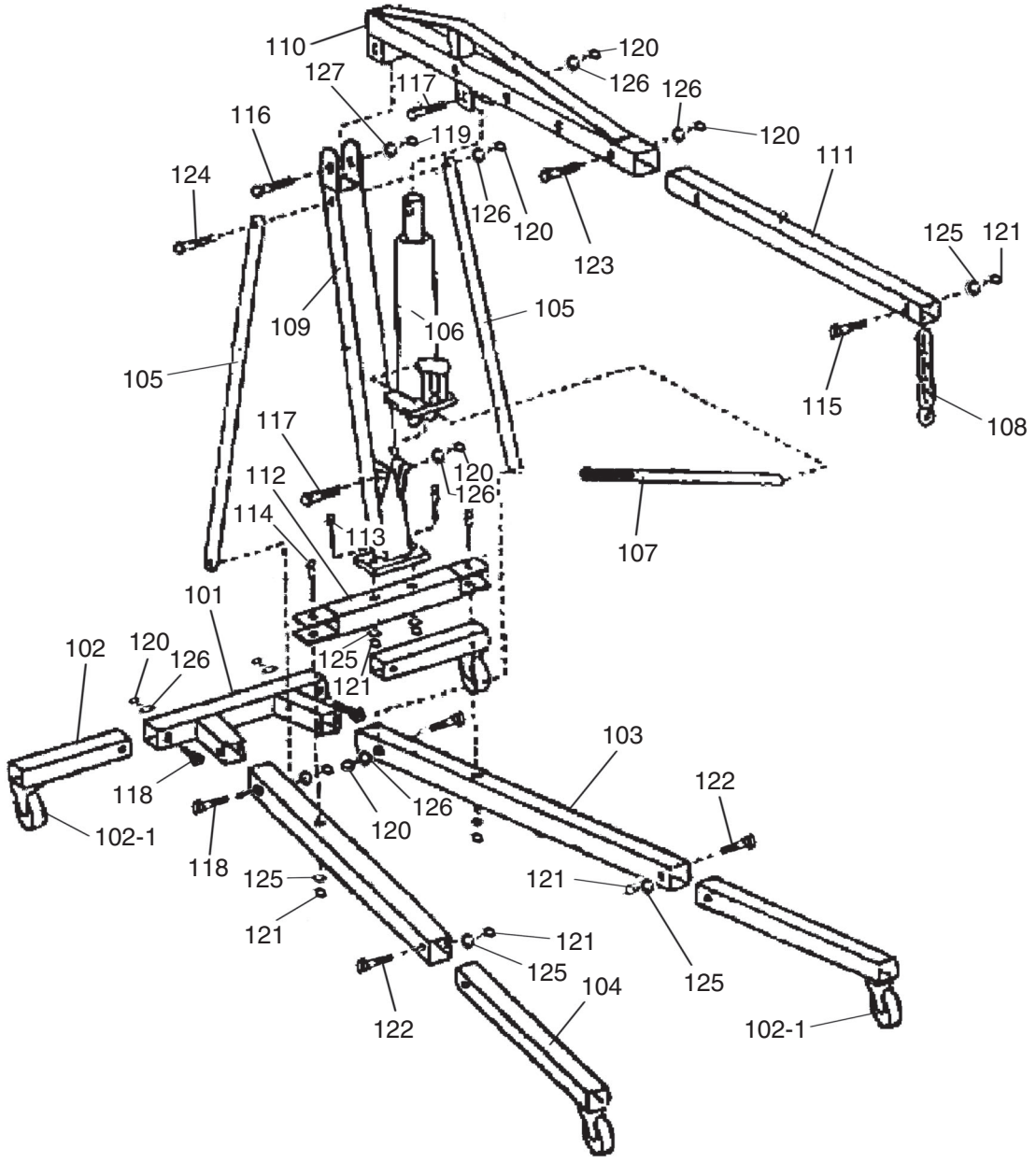
Engine Crane Breakdown (G8712)



REF	PART #	DESCRIPTION
1	P8712001	FRAME BASE
2	P8712002	FRONT LEG
3	P8712003	BOOM
4	P8712004	BOOM EXTENSION
5	P8712005	SUPPORT STRAP
6	P8712106	8 TON HYDRAULIC RAM
7	P8712107	PUMP HANDLE
8	P8712008	HOOK & CHAIN ASSEMBLY
9	P8712009	MAIN SUPPORT POST
13	PB178M	HEX BOLT M18-2.5 X 110
14	PB113M	HEX BOLT M16-2 X 120
15	PB133M	HEX BOLT M16-2 X 90
16	PB177M	HEX BOLT M16-2 x 85

REF	PART #	DESCRIPTION
17	PB131M	HEX BOLT M16-2 X 70
18	PB99M	HEX BOLT M14-2 X 110
19	PB100M	HEX BOLT M14-2 X 100
20	PB98M	HEX BOLT M14-2 X 80
21	PN29M	HEX NUT M18-2.5
22	PN05M	HEX NUT M16-1.5
23	PN32M	HEX NUT M14-2
24	P8712024	PIN W/COTTER PIN
25	P8712025	SWIVEL CASTER, SMALL
26	P8712102-1	SWIVEL CASTER, LARGE
27	PW10M	FLAT WASHER 14MM
28	PW08M	FLAT WASHER 16MM
29	PW18M	FLAT WASHER 18MM

Engine Crane Breakdown (G8713)



REF	PART #	DESCRIPTION
101	P8713101	REAR SUPPORT
102	P8713102	REAR LEG W/SWIVEL CASTER
102-1	P8713102-1	SWIVEL CASTER
103	P8713103	INTERMEDIATE LEG
104	P8713104	FRONT LEG EXTENSION W/CASTER
105	P8713105	SUPPORT STRAP
106	P8713106	8 TON HYDRAULIC RAM
107	P8713107	PUMP HANDLE
108	P8712008	HOOK & CHAIN ASSEMBLY
109	P8713109	MAIN SUPPORT POST
110	P8713110	BOOM
111	P8713111	BOOM EXTENSION
112	P8713112	EXTENSION SUPPORT
113	PB100M	HEX BOLT M14-2 X 100

REF	PART #	DESCRIPTION
114	PB174M	HEX BOLT M14-2 X 120
115	PB98M	HEX BOLT M14-2 X 80
116	PB176M	HEX BOLT M20-2.5 X 120
117	PB133M	HEX BOLT M16-2 X 90
118	PB138M	HEX BOLT M16-2 X 100
119	PN17M	HEX NUT M20-1.5
120	PN13M	HEX NUT M16-2
121	PN32M	HEX NUT M14-2
122	PB98M	HEX BOLT M14-2 X 80
123	PB133M	HEX BOLT M16-2 X 90
124	PB175M	HEX BOLT M16-2 X 110
125	PW10M	FLAT WASHER 14MM
126	PW08M	FLAT WASHER 16MM
127	PW13M	FLAT WASHER 20MM