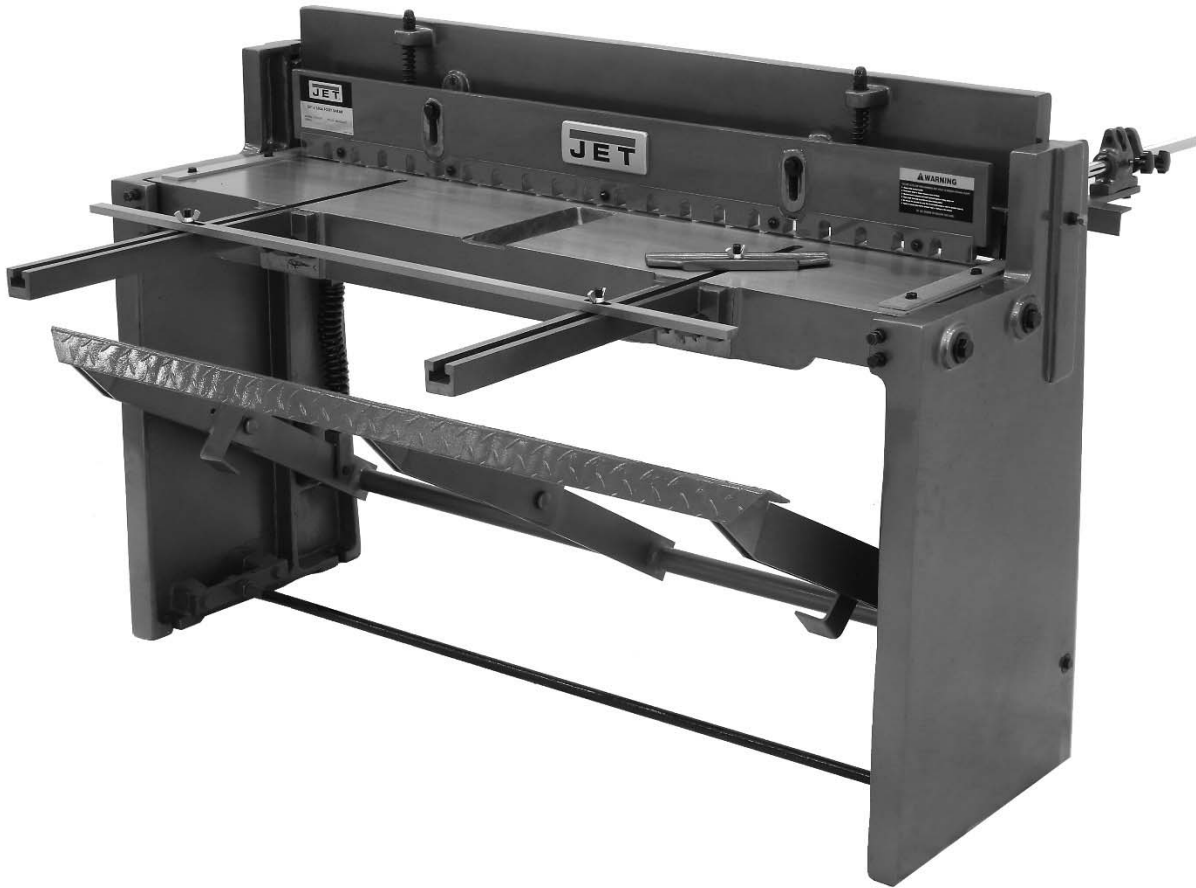




# Operating Instructions and Parts Manual 16 x 52 inch Foot Shear

Model FS-1652J





## 1.0 IMPORTANT SAFETY INSTRUCTIONS

READ ALL INSTRUCTIONS BEFORE USING THIS FOOT SHEAR.

### **WARNING – To reduce the risk of injury:**

1. Read and understand the entire owner's manual before attempting assembly or operation.
2. Read and understand the warnings posted on the machine and in this manual. Failure to comply with all of these warnings may cause serious injury.
3. Replace the warning labels if they become obscured or removed.
4. This foot shear is designed and intended for use by properly trained and experienced personnel only. If you are not familiar with the proper and safe operation of a foot shear, do not use until proper training and knowledge have been obtained.
5. Do not use this foot shear for other than its intended use. If used for other purposes, JET disclaims any real or implied warranty and holds itself harmless from any injury that may result from that use.
6. Always wear ANSI Z87.1 approved safety glasses or face shield while using this foot shear. (Everyday eyeglasses only have impact resistant lenses; they are *not* safety glasses.)
7. Before operating the foot shear, remove tie, rings, watches and other jewelry, and roll sleeves up past the elbows. Do not wear loose clothing. Confine long hair. Non-slip footwear or anti-skid floor strips are recommended.
8. Wear ear protectors (plugs or muffs) if noise reaches unsafe levels.
9. Do not operate this machine while tired or under the influence of drugs, alcohol or any medication.
10. Keep safety guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards immediately after completion of maintenance.
11. Check damaged parts. Before further use of the machine, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
12. Provide for adequate space surrounding work area and non-glare, overhead lighting.
13. Keep the floor around the machine clean and free of scrap material, oil and grease.
14. Keep visitors a safe distance from the work area. Keep children away.
15. Make your workshop child proof with padlocks, master switches or by removing starter keys.
16. Give your work undivided attention. Looking around, carrying on a conversation and "horse-play" are careless acts that can result in serious injury.
17. Maintain a balanced stance at all times so that you do not fall into the blade or other moving parts. Do not overreach or use excessive force to perform any machine operation.
18. Use recommended accessories; improper accessories may be hazardous.
19. Maintain tools with care. Keep blades sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.
20. Do not stand on the machine. Serious injury could occur if the machine tips over.
21. Remove loose items and unnecessary work pieces from the area before operating the machine.
22. Keep hold-down clearance to table as small as possible while allowing just enough room to feed stock.
23. Do not cut rods with the foot shear.
24. Sheet metal stock has sharp edges; use caution when handling to prevent cuts.
25. Keep hands and fingers clear of the blade and hold-down area. Do not place hands or fingers between material and table when operating.
26. Do not exceed rated capacity of the foot shear.
27. Do not exceed front gauge capacity – material must not be so long that it interferes in any way with safe operation of the foot pedal.

**Familiarize yourself with the following safety notices used in this manual:**

**⚠CAUTION** This means that if precautions are not heeded, it may result in minor injury and/or possible machine damage.

**⚠WARNING** This means that if precautions are not heeded, it may result in serious, or possibly even fatal, injury.

## **SAVE THESE INSTRUCTIONS**

### **2.0 About this manual**

This manual is provided by JET, covering the safe operation and maintenance procedures for a JET Model FS-1652T Foot Shear. This manual contains instructions on installation, safety precautions, general operating procedures, maintenance instructions and parts breakdown. Your machine has been designed and constructed to provide consistent, long-term operation if used in accordance with the instructions as set forth in this document.

If there are questions or comments, please contact your local supplier or JET.

Retain this manual for future reference. If the machine transfers ownership, the manual should accompany it.

**⚠WARNING** Read and understand the entire contents of this manual before attempting assembly or operation! Failure to comply may cause serious injury!

### 3.0 Table of contents

Section	Page
1.0 IMPORTANT SAFETY INSTRUCTIONS .....	2
2.0 About this manual .....	3
3.0 Table of contents.....	4
4.0 Specifications .....	5
5.0 Setup and assembly.....	6
5.1 Shipping contents.....	6
5.2 Tools required for assembly .....	6
5.3 Unpacking and cleanup.....	6
5.4 Extension arms and front stop.....	6
5.5 Back stop.....	6
6.0 Adjustments .....	7
6.1 Back stop adjustment.....	7
6.2 Table/side panel adjustment .....	7
6.3 Blade clearance adjustment .....	7
7.0 Operation .....	7
8.0 User-maintenance.....	8
8.1 Spring tension .....	8
8.2 Gib adjustment .....	8
8.3 Blade care .....	8
9.0 Troubleshooting FS-1652T Foot Shear.....	8
10.0 Replacement Parts.....	8
10.1.1 Exploded View: FS-1652J Foot Shear .....	9
10.1.2 Parts List: FS-1652J Foot Shear .....	10

## 4.0 Specifications

Model number ..... **FS-1652T**  
Stock number ..... 756202

### Capacities:

Mild steel ..... 16 gauge  
Maximum shearing length ..... 52 in. (1321mm)  
Back gauge capacity ..... 28 in. (710mm)  
Front gauge capacity ..... 22 in. (550mm)

### Blade features:

Lower blade ..... 2 cutting edges with 2-degree edge relief  
Upper blade ..... 4 cutting edges with 2-degree edge reliefs

### Primary materials:

Frame ..... cast iron  
Table ..... cast iron, ground surface  
Lower blade ..... hardened stainless steel, 48~58HRC  
Upper blade ..... hardened stainless steel, 48~58HRC  
Hold-down ..... cast iron

### Dimensions:

Overall dimensions, fully assembled (LxWxH) ..... 63 x 74 x 42 in. (1600 x 1880 x 1067mm)  
Footprint (LxW) ..... 62-1/4 x 72 in. (1580 x 1830mm)  
Shipping dimensions (LxWxH) ..... 66 x 30 x 45 in. (1680 x 760 x 1150mm)

### Weights:

Net weight ..... 1100 lbs (499 kg)  
Shipping weight ..... 1220 lbs (554 kg)

*The specifications in this manual were current at time of publication, but because of our policy of continuous improvement, JET reserves the right to change specifications at any time and without prior notice, without incurring obligations.*

## 5.0 Setup and assembly

**⚠WARNING** Read and understand all assembly instructions before attempting assembly. Failure to comply may cause serious injury.

### 5.1 Shipping contents

See Figures 1 and 2.

- 1 Foot shear
- 2 Adjustment blocks – A
- 1 Bevel gauge – B
- 2 Extension arms – C
- 2 Back stop rods – D
- 1 Back stop – E
- 1 Front stop – F
- 3 Wing nuts – G
- 4 Cotter pins – H
- 4 Hex cap bolts, M12x45 – I
- 4 Flat washers, wide, M12 – J
- 2 Hex cap bolts, M10x20 – K
- 2 Flat washers, M10 – L
- 2 Long clevis pins – M
- 4 Short clevis pins – N
- 3 T-nuts – O
- 3 Flat Washers, M12 – P

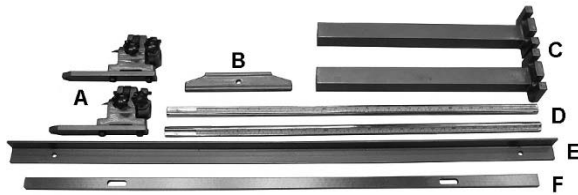


Figure 1

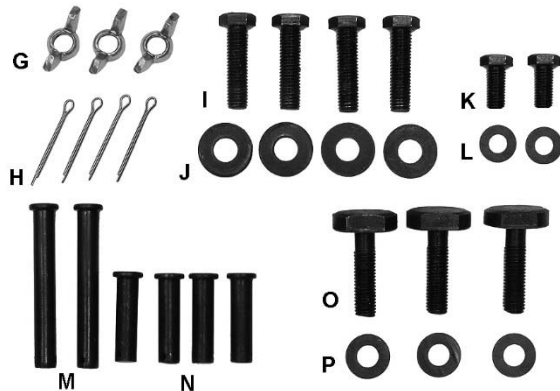


Figure 2

### 5.2 Tools required for assembly

16mm and 19mm wrenches

### 5.3 Unpacking and cleanup

1. Remove crating from around machine. Inspect contents for shipping damage. Report damage, or any missing parts, to your distributor. Do not

discard packing material until shear is assembled and operating satisfactorily.

2. Remove bolts holding machine to pallet. Use hoist, forklift, or similar means to lift shear off pallet and move to desired location.
3. Carefully move machine to a level foundation. Machine location must allow access to all sides. Secure shear to floor using lag screws (not provided) or other appropriate fasteners.
4. Remove any protective straps from around machine, and carefully clean all rust protected surfaces with a mild solvent or kerosene and a soft rag. Do not use lacquer thinner, paint thinner, or gasoline, as these will damage painted surfaces. **Use caution when cleaning around blade area.**
5. Coat all machined surfaces with a light coat of oil to inhibit rust. Paste wax may be used on the exposed table surface.

**Assembly Note:** Prior to shipment the foot shear is adjusted by the manufacturer for proper operation. If the machine does not operate properly, or the stand does not sit squarely on the floor, refer to sect. 6.2, *Table/side panel adjustment*.

### 5.4 Extension arms and front stop

1. Install four hex cap bolts and washers (I/J, Figure 3) loosely into front table edge.
2. Slide extension arm (C) onto bolts, leaving extension arm slightly above table surface. Make bolts snug, and tap down extension arm until level with table surface. Tighten bolts firmly. Repeat for other extension arm.

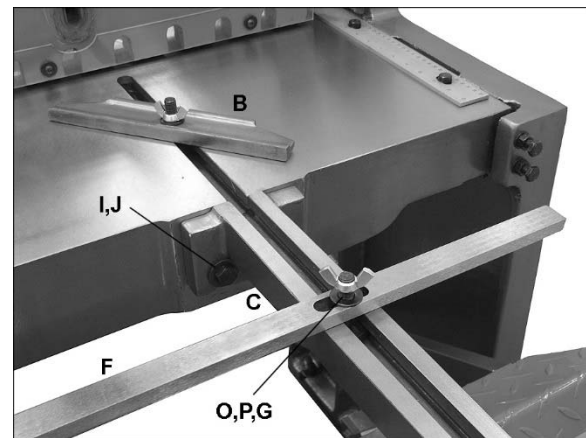


Figure 3

3. Install T-nuts, flat washers and wing nuts (O,P,G) to bevel gauge (B) and front stop (F), and slide them into the channels.

### 5.5 Back stop

1. Insert rod (D, Figure 4) through adjustment block (A) and into frame. Make sure both rods are inserted an even amount into the frame. Tighten securely in place with screw (D<sub>1</sub>).

2. Attach back stop (E) to adjustment block flange with M10 screw and flat washer (K,L) from underneath.

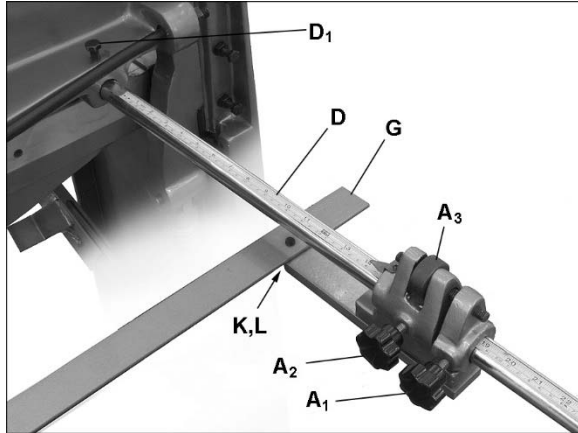


Figure 4

## 6.0 Adjustments

### 6.1 Back stop adjustment

1. To position back stops, loosen all knobs (A<sub>1</sub>, A<sub>2</sub>, Figure 4) and slide adjustment blocks close to desired position on scale.
2. Tighten knob (A<sub>1</sub>) and rotate dial (A<sub>3</sub>) to adjust to final position.
3. Tighten remaining knobs (A<sub>2</sub>).

### 6.2 Table/side panel adjustment

If floor is level but shear does not sit evenly, adjust as follows:

1. Loosen two bolts (R, Figure 5) on each side of shear.
2. Loosen hex nuts and bolts (S, Figure 5). Table must rest squarely on right and left side panels at all four corners while screws are loose. Shim legs at floor if necessary.
3. Securely tighten bolts and hex nuts (R,S) when adjustments are complete.

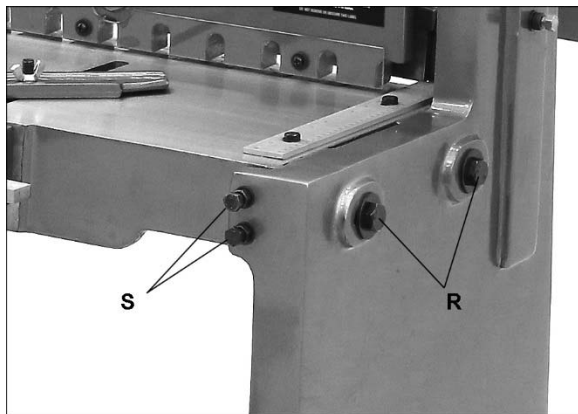


Figure 5

### 6.3 Blade clearance adjustment

Blade clearance has been adjusted by the manufacturer for the gauge capacity of the shear. If the shear does not cut properly during operations, identify the specific problem: Place heavy sheet of paper (such as brown craft paper approximately 0.005 in. thick) in cutting position, along entire length of table. Slowly press foot lever.

**If shear does not cut paper:** Move lower blade toward upper blade. Slightly loosen bolts (R, Figure 5) and loosen hex nuts and turn bolts (S, Figure 5) to move lower blade toward upper blade. Distance between upper and lower blades should be 0.002 to 0.005 inches. Do **NOT** let blades overlap.

Repeat test cut of paper. When satisfied, tighten hex nuts (S, Figure 5) and bolts (R, Figure 5).

**If shear cuts paper on the ends, but not the center:** Loosen hex nut and turn tie-rod adjusting screw (Figure 6) *clockwise*, as viewed from back, until paper is cut the entire length. Retighten hex nut against frame.

**If shear cuts paper in the center, but not the ends:** Loosen hex nut and turn tie-rod adjusting screw (Figure 6), *counter-clockwise* until paper is cut the entire length. Retighten hex nut against frame.

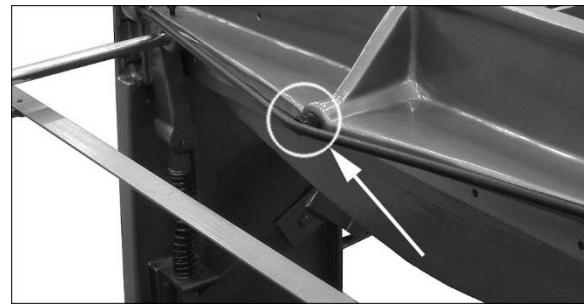


Figure 6

Make sure scales on table top are square to blade, and also show correct distance from blade. Make test cuts to verify that scales are correct. If adjustment is needed, loosen bolts and shift scales as needed. Retighten bolts before operating.

## 7.0 Operation

1. Slide material beneath hold-down and against back stop and side stops or bevel gauge.

### **CAUTION**

**Do not place hands between material and table while operating shear.**

2. Press foot lever all the way down until cutting action is complete.
3. Release foot lever, which will rise to original position.

## 8.0 User-maintenance

Lubricate all pivot points on machine daily.

Periodically apply light coat of paste wax, or other commercial protectant, to table surface.

Additional clevis and cotter pins are provided with the foot shear, should installed ones need replacing due to wear or shearing.

### 8.1 Spring tension

The Foot lever spring return can be adjusted by tightening hex nuts (#47, exploded view).

The spring return can be adjusted on the hold-down by turning hex nuts (#10, exploded view).

### 8.2 Gib adjustment

Three gib screws (#32, exploded view) can be adjusted for play in each shim. Adjust for smooth travel.

### 8.3 Blade care

**CAUTION** Use thick gloves when handling shear blades.

Wipe blade lightly with oil after use.

Upper blade is 4-way, and can be removed and flipped for a sharp edge three times before requiring sharpening.

Bottom blade is 2-way and can be flipped once for a sharp edge before requiring sharpening.

## 9.0 Troubleshooting FS-1652T Foot Shear

Symptom	Possible Cause	Correction
Burr on sheared edge.	Low quality materials.	Use better grade steel.
	Dull blade(s).	Turn or sharpen blade(s).
	Incorrect blade clearance, excessive gap between blades.	Adjust blades closer.
	Gibs out of adjustment.	Tighten gibs.
Won't cut material, or cuts with difficulty.	Material exceeds machine capacity.	Use proper gauge material.
	Dull blade(s).	Turn or sharpen blade(s).
	Incorrect blade clearance, excessive gap between blades.	Adjust blades closer.
Stock shifts while cutting.	Insufficient hold-down pressure.	Increase spring pressure of hold-down.
	Dull blade(s).	Turn or sharpen blade(s).
	Lower blade not even with table surface.	Adjust blade; use shims if blade has been reground.
Cuts not square.	Insufficient hold-down pressure.	Increase spring pressure of hold-down.
	Unequal blade gap across length of blade.	Adjust for equal blade gap.
	Uneven contact with guides.	Place material evenly against guides.
	Blade is bowed.	Replace blade.

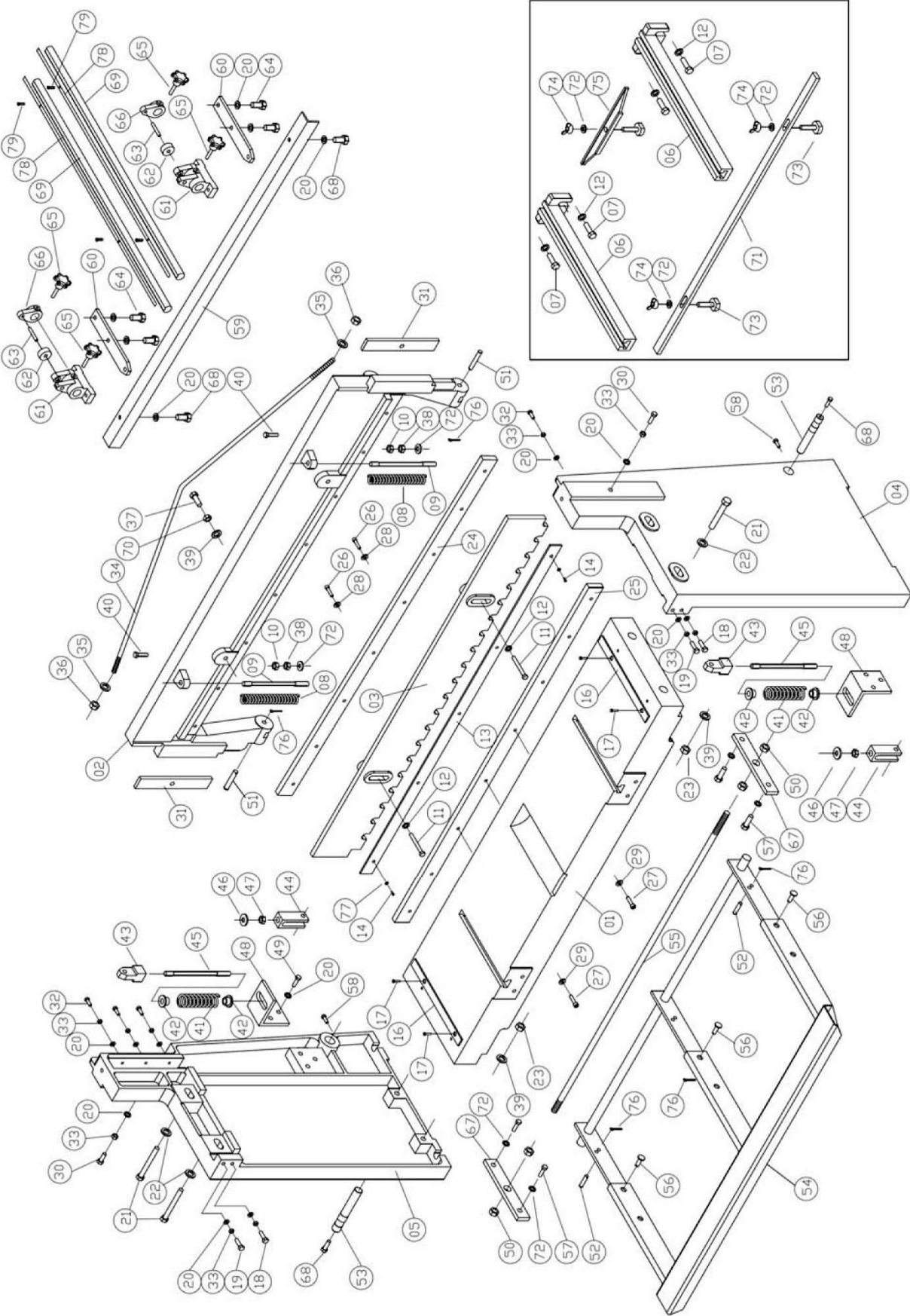
## 10.0 Replacement Parts

Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.

Non-proprietary parts, such as fasteners, can be found at local hardware stores, or may be ordered from JET. Some parts are shown for reference only, and may not be available individually.



10.1.1 Exploded View: FS-1652J Foot Shear



## 10.1.2 Parts List: FS-1652J Foot Shear

Index No	Part No	Description	Size	Qty
1	FS1652J-01	Table		1
2	FS1652J-02	Cutter Bar		1
3	FS1652J-03	Hold Down		1
4	FS1652J-04	R.H. Side Panel		1
5	FS1652J-05	L.H. Side Panel		1
6	FS1652J-06	Front Extension Arm		2
7	F009545	Hex Cap Bolt	M12-1.75x45	4
8	FS1652J-08	Spring		2
9	FS1652J-09	Stud		2
10	F004545	Cap Nut	M12-1.75	2
11	F009558	Hex Cap Bolt	M12-1.75x80	2
12	F002646	Flat Washer	ø12xø24x2.5 mm	6
13	FS1652J-13	Finger Guard		1
14	F001203	Pan Head Machine Screw	M6-1.0x16	5
16	FS1652J-16	Table Scale		2
17	F008791	Hex Cap Bolt	M8-1.25x25	4
18	F009511	Hex Cap Bolt	M10-1.5x60	2
19	F009510	Hex Cap Bolt	M10-1.5x55	2
20	F002643	Flat Washer	ø10xø20x2 mm	24
21	FS1652J-21	Bolt	M16x120	4
22	F002650	Washer	ø16xø30x3 mm	4
23	F003088	Hex Nut	M16-2.0	4
24	FS1652J-24	Upper Knife		1
25	FS1652J-25	Lower Knife		1
26	F005432	Socket Head Cap Screw	M10-1.5x45	8
27	F005433	Socket Head Cap Screw	M10-1.5x50	8
28	F002643	Flat Washer	ø10xø20x2 mm	8
29	F002643	Flat Washer	ø10xø20x2 mm	8
30	FS1652J-30	Hex Cap Screw (Copper)	M10x50	2
31	FS1652J-31	Gib		2
32	F009511	Hex Cap Bolt	M10-1.5x60	6
33	F003080	Hex Nut	M10-1.5	12
34	FS1652J-34	Rod		1
35	FS1652J-35	Washer	14 mm	2
36	F003087	Hex Nut	M14-2.0	2
37	FS1652J-37	Special Screw	M16-2.0x60	1
38	F003084	Hex Nut	M12-1.75	2
39	F002650	Flat Washer	ø16xø30x3 mm	5
40	F009503	Hex Cap Bolt	M10-1.5x40	2
41	FS1652J-41	Spring		2
42	FS1652J-42	Spring Cap		4
43	FS1652J-43	Swivel Top		2
44	FS1652J-44	Swivel Bottom		2
45	FS1652J-45	Stud		2
46	F002650	Flat Washer	ø16xø30x3 mm	2
47	F003126	Hex Nut	M16-2.0	2
48	FS1652J-48	Bracket		2
49	F008836	Hex Cap Bolt	M10-1.5x25	6
50	F003091	Hex Nut	M20-2.5	4
51	FS1652J-51	Pin	ø12x85 mm	4
52	FS1652J-52	Clevis Pin	ø12x45 mm	6
53	FS1652J-53	Brake Pin		2
54	FS1652J-54	Pedal Assembly		1
55	FS1652J-55	Connection Bar		1
56	FS1652J-56	Clevis Pin	ø20x35 mm	3
57	F009542	Hex Cap Bolt	M12-1.75x25	4
58	F008836	Hex Cap Bolt	M10-1.5x25	2
59	FS1652J-59	Back Stop		1
60	FS1652J-60	Extension Bar		2
61	FS1652J-61	Adjusting Block		1

Index No	Part No	Description	Size	Qty
62	FS1652J-62	Adjusting Dial		2
63	FS1652J-63	Adjusting Screw		2
64	F009498	Hex Cap Bolt	M10-1.5x30	4
65	FS1652J-65	Knob		4
66	FS1652J-66	Adjusting Bracket		2
67	FS1652J-67	Plate		2
68	F008832	Hex Cap Bolt	M10-1.5x20	4
	FS1652J-80	Back Stop Rod Assembly (#69, #78, #79)		2
69	FS1652J-69	Back Stop Rod		2
70	F003088	Hex Nut	M16-2.0	1
71	FS1652J-71	Front Stop		1
72	F002646	Flat Washer	ø12xØ24x2.5 mm	9
73	FS1652J-73	"T" Bolt	M12	3
74	F012160	Wing Nut	M12-1.75	3
75	FS1652J-75	Angle Gauge		1
76	F003835	Cotter Pin	Ø3.2x45 mm	10
77	F002636	Flat Washer	ø6xØ12x1.6 mm	5
78	FS1652J-78	Scale		2
79	FS1652J-79	Rivet	2x5 mm	4
	LM000077	ID Label, FS-1652J (not shown)		1
	LM000135	Label – Gauge Capacities (not shown)		1
	LM000134	Warning Label (not shown)		1
	JET-165	JET Logo with adhesive (not shown)	165x68mm	1