



**IRONCRAFT**

# **FRF SERIES OFFSET FLAIL MOWER**



## **OPERATION & PARTS MANUAL**

Read and understand the manual. This manual provides information and procedures to safely operate and maintain the FRF Series Offset Flail Mower.



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# START HERE

Congratulations! You've just added an IronCraft attachment to your arsenal. If you have any questions about how to use your new offset flail mower - don't hesitate to reach out to your local IronCraft dealer!

 **NEVER CARRY OUT MAINTENANCE OR CLEANING WORK UNLESS THE PTO HAS BEEN DISENGAGED, THE ENGINE SWITCHED OFF, THE HAND BRAKE ENGAGED, AND THE TRACTORS WHEELS CHOCKED IN POSITION BY A BLOCK OR STONE UNDER THE WHEELS.**



# IMPORTANT SAFETY INFORMATION



DO NOT ALLOW ANYONE TO OPERATE THIS EQUIPMENT WHO HAS NOT FULLY READ AND COMPREHENDED THIS MANUAL AND WHO HAS NOT BEEN PROPERLY TRAINED IN THE SAFE OPERATION OF THE EQUIPMENT.

**Thoroughly read and understand the instructions given in this manual before operation. Refer to the “Safety Decal”, read all instructions noted on them.**

1. Operator should be familiar with all functions of the unit.
2. Operate implement from the driver’s seat only.
3. Make sure all guards and shields are in place and secured before operating the implement.
4. Do not leave tractor or implement unattended with engine running.
5. Dismounting from a moving tractor could cause serious injury or death.
6. Do not stand between tractor and implement during hitching.
7. Keep hands, feet, and clothing away from power-driven parts.
8. Wear snug fitting clothing to avoid entanglement with moving parts.
9. Watch out for wires, trees, etc., when raising implement. Make sure all persons are clear of working area.
10. Turning tractor too tight may cause implement to ride up on wheels. This could result in injury or equipment damage.

## SAFETY ALERTS



THE **SAFETY ALERT SYMBOL** INDICATES THERE IS A POTENTIAL HAZARD TO PERSONAL SAFETY INVOLVED AND EXTRA SAFETY PRECAUTION MUST BE TAKEN. WHEN YOU SEE THIS SYMBOL, BE ALERT AND CAREFULLY READ THE MESSAGE THAT FOLLOWS IT.

In addition to design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

## BE AWARE OF SIGNAL WORDS

A signal word designates a degree or level of hazard seriousness. The signal words are:



Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations, typically for machine components that, for functional purpose, cannot be guarded.



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.



Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



**FOR YOUR PROTECTION** THOROUGHLY READ AND UNDERSTAND THE "SAFETY LABEL" SECTION.  
READ ALL INSTRUCTIONS NOTED ON THEM.

## SHUTDOWN AND STORAGE

- Lower machine to ground, put tractor in park, turn off engine, and remove the ignition key.
- Detach and store implements in a area where children normally do not play. Secure implement by using blocks and supports.

## USE SAFETY LIGHTS AND DEVICES

- Slow moving tractors, self-propelled equipment, and towed implements can create a hazard when driven on public roads. They are difficult to see, especially at night.
- Flashing warning lights and turn signals are recommended whenever driving on public roads. Use lights and devices provided with implement.

## TRANSPORT MACHINERY SAFELY

- Comply with state and local laws.
- Maximum transport speed for implement is 20 mph. Do not exceed. Never travel at a speed which does not allow adequate control of steering and stopping. Some rough terrain require a slower speed.
  - Sudden braking can cause a towed load to swerve and upset. Reduce speed if towed load is not equipped with brakes.
- Use the following maximum speed - tow load weight ratios as a guideline:
  - 20 mph** when weight is less than or equal to the weight of tractor.
  - 10 mph** when weight is double the weight of tractor.
- **IMPORTANT:** Do not tow a load that is more than double the weight of tractor.

## TRANSPORT MACHINERY SAFELY

- Riders obstruct of operator's view, they could be struck by foreign objects or thrown from the machine.
- Never allow children to operate equipment.

## PRACTICE SAFE MAINTENANCE

- Understand procedure before doing work. Use proper tools and equipment. refer to Operator's Manual for additional information.
- Work in a clean dry area.
- Lower the implement to the ground, put tractor in park, turn off engine, and remove key before performing maintenance.
- Allow implement to cool completely.
- Do not grease or oil implement while it is operation.
- Inspect all parts. Make sure parts are in good condition and installed properly.
- Remove buildup of grease, oil or debris.
- Remove all tools and unused parts from implement before operation.

## PREPARE FOR EMERGENCIES

- Be prepared if a fire starts.
- Keep a fist aid kit and fire extinguisher handy.
- Keep emergency numbers for doctor, ambulance, hospital and fire department near phone.

## WEAR PROTECTIVE EQUIPMENT

- Protective clothing and equipment should be worn.
- Wear clothing and equipment appropriate for the job. Avoid loose fitting clothing.
- Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as earmuffs or earplugs.
- Operating equipment safely requires the full attention of the operator. Avoid wearing radio headphones while operating machinery.

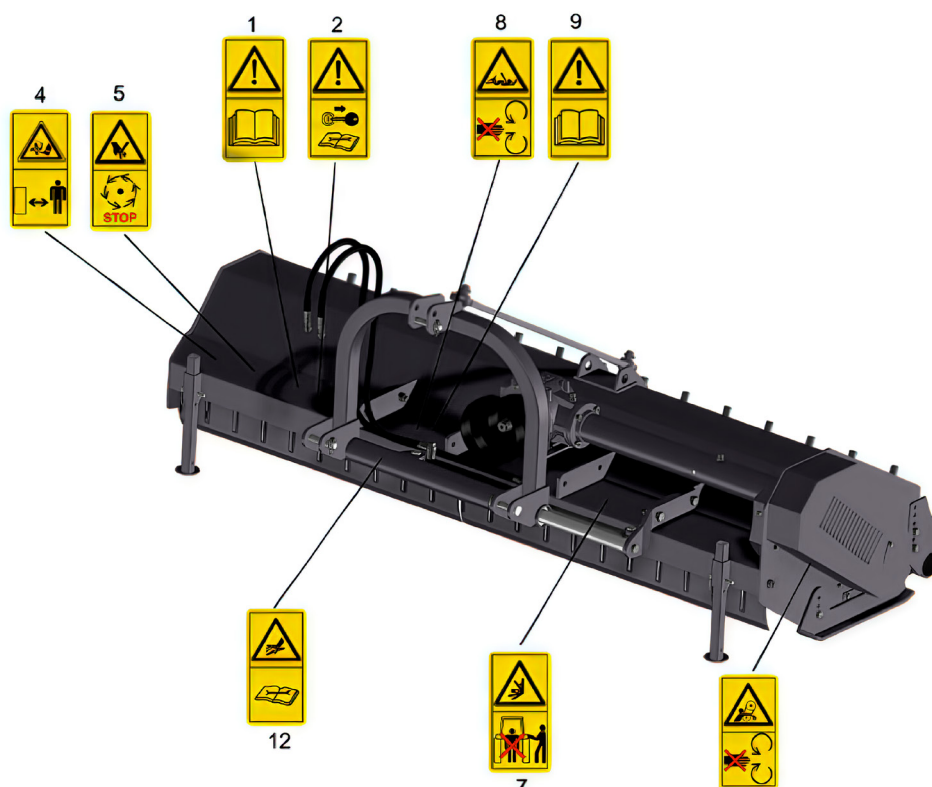
## AVOID HIGH PRESSURE FLUIDS HAZARD

- Escaping fluid under pressure can penetrate the skin causing serious injury.
- Avoid the hazard by relieving pressure before disconnecting hydraulic lines.
- Use a piece of paper or cardboard, not body parts, to check for suspected leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
- If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be treated within a few hours or gangrene may result.

## SAFETY LABELS

Your Flail Mower comes equipped with all safety labels in place. They were designed to help you safely operate your implement. Read and follow their directions.

1. Keep all safety labels clean and legible.
2. Replace all damaged or missing labels. To order new labels go to your nearest Ironcraft dealer or visit our dealer locator at [IroncraftUSA.com](http://IroncraftUSA.com).
3. Some new equipment installed during repair requires safety labels to be affixed to the replaced component as specified by Cosmo. When ordering new components make sure the correct safety labels are included in the request.
4. Refer to this section for proper label placement. To install new labels:



# INTRODUCTION

IronCraft welcomes you to the growing family of new product owners. This implement has been designed with care and built by skilled workers using quality materials. Proper assembly, maintenance, and safe operating practices will help you get years of satisfactory use from the machine.

## APPLICATION

The Flail Mowers are designed for Category 1 - three point hitch or Quick-Hitch System mounting. These Fixed Bar Flail Mowers are ideal for ripping, leveling, finish grading, and backfilling applications at feedlots, outdoor arenas, building sites, and maintenance operations on farm and ranch lanes or roadways.

## USING THIS MANUAL

- This Operator's Manual is designed to help familiarize you with safety, assembly, operation, adjustments, troubleshooting, and maintenance. Read this manual and follow the recommendations to help ensure safe and efficient operation.
- The information contained within this manual was current at the time of printing. Some parts may change slightly to assure you of the best performance.
- To order a new Operator's or Parts Manual contact your authorized dealer. Manuals can also be printed from the Cosmo Service & Support Center by your dealer.

## TERMINOLOGY

**“Right”** or **“Left”** as used in this manual is determined by facing the direction the machine will operate while in use unless otherwise stated.

## DEFINITIONS

**“Note:”** A special point of information that the operator must be aware of before continuing.

**“Important:”** A special point of information related to its preceding topic. The intention is that this information should be read and noted before continuing.

## OWNER ASSISTANCE

The Warranty Registration card should be filled out by the dealer at the time of purchase. This information is necessary to provide you with quality customer service. If customer service or repair parts are required contact a dealer. A dealer has trained personnel, repair parts and equipment needed to service the machine.

The parts on your machine have been specially designed and should only be replaced with genuine parts.

## SERIAL NUMBER PLATE

For prompt service always use the serial number and model number when ordering parts from your dealer. Be sure to include your serial and model numbers in correspondence also.



# SECTION 1: ASSEMBLY AND SET-UP

## TRACTOR REQUIREMENTS

This mower is designed with a 3-Point category I hitch. Tractor horse power rating should not exceed 80 PTO horse power.

### ASSEMBLY

Refer to the parts illustration.

### TRACTOR HOOK-UP

- Be certain that tractor draw bar will not interfere. Move draw bar ahead or remove if required. Draw bar should also be checked for clearance when unit is being raised for the first time.
- Align lower link arms of tractor to hitch clevises on mower. Insert lower hitch pins into lower ball swivels and attach linch pins.
- Attach tractor top link to upper floating hitch on mower with pin supplied. Secure with lock pin.
- Adjust tractor top link in or out to place upper hitch pin vertically above or slightly behind lower hitch pins to allow mower flotation. The mower should be run with the back 15 degrees lower than the front.

### DRIVELINE INSTALLATION

- Slide driveline end with extended safety cone over splined shaft of gearbox and secure with attaching device.
- Slide driveline over tractor's splined PTO shaft and secure with locking device of driveline.
- Driveline should now be moved back and forth to insure that it is secure on the PTO shaft of the tractor and mower gearbox.
- Attach chain from the driveline shield to one of the upper hitch braces to ensure that the shield does not rotate.
- Should driveline require shortening:
  - Hold the half-shafts next to each other in the shortest working position and mark them.
  - Shorten inner and outer guard tubes equally.
  - Shorten inner and outer sliding profiles by the same length as the guard tubes.
  - Proper overlap is a minimum of one-half the length of each tube, with both tubes being of equal length.
  - Round off all sharp edges and remove burrs. Grease sliding profiles.



**CAUTION**



**TRACTOR PTO SHIELD AND ALL MOWER GUARDS MUST BE IN PLACE AT ALL TIMES DURING OPERATION!**

# SECTION 2: OPERATING INSTRUCTIONS

## TRANSPORTING

**NOTE:** Always disengage PTO before raising mower to transport position.

- When raising the mower to transport position, be sure that driveline does not contact tractor or mower. Adjust and set the tractor's 3-point hitch lift height so that the driveline does not contact mower deck in the fully raised position.
- Be sure to reduce tractor ground speed when turning, leaving enough clearance so that the mower does not contact obstacles such as buildings, trees or fences.
- Select a safe ground travel speed when transporting from one area to another. When traveling on roadways, transport in such a way that faster moving vehicles may pass safely.
- When traveling over rough or hilly terrain, shift tractor to a lower gear.



**CAUTION**



WHEN TRAVELING ON PUBLIC ROADS, WHETHER AT NIGHT OR DURING THE DAY, USE ACCESSORY LIGHTS AND DEVICES FOR ADEQUATE WARNING TO OPERATORS OF OTHER VEHICLES. COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS.

## MOWING INSTRUCTIONS

- Clear area to be mowed of objects and debris that might be picked up and thrown by the mower blades.
- Grass is best cut when it is dry. Mowing wet grass can cause plugging resulting in grass clumps behind the mower.
- Grass should be mowed frequently as shorter clippings deteriorate faster.
- If mowing extremely tall grass, it is best to raise cutting height and mow the area, then lower cutting height and mow a second time at the desired height.

## OPERATING INSTRUCTIONS

Proper servicing and adjustments are the key to the long life of any machine. With careful and systematic inspection of the mower, costly maintenance, time and repair can be avoided.

Before beginning to mow, the following inspection should be performed:

- Check oil level in gearbox.
- Check that all plugs in gearbox have been replaced and tightened properly.
- Be sure all mower knives, bolts and nuts are tight.
- Be certain all guards and shields are in place and secure.
- Grease driveline shaft and all other grease fittings.
- Clear area to be mowed of rocks, branches and other foreign objects.
- Lower mower to ground. Set tractor throttle at approximately 1/4 open. Engage PTO to

start blades rotating.

- Operate with 540 rpm PTO tractor.
- At first begin mowing at a slow forward speed and shift up until the desired speed is achieved - maintaining 540 PTO rpm.
- Mower knives will cut better at a faster blade speed than at reduced throttle.
- After mowing the first 50 feet, stop and check to see that the mower is adjusted properly.
- **Do not** make sharp turns or attempt to back up while mower is on the ground.
- **Do not** engage PTO with mower in the fully raised position. **Do not** engage PTO at full throttle.

## SECTION 3: ADJUSTMENTS

### LEVELING THE MOWER

**NOTE:** Tractor and mower should be on level ground.

Leveling can be adjusted at the tractor's 3-point arms and center link.

### CUTTING HEIGHT ADJUSTMENT

The machines cutting height depends upon the position of the rear roller.

- Remove the bolts that fix the roller on both sides.
- Lift or lower both sides of roller in equal measurements.
- Replace bolts and re-tighten.

### 3-POINT HITCH ADJUSTMENTS

The 3-point hitch system on this mower has been designed for front to back flotation when mowing on uneven terrain. Adjust tractor's top center link to place the upper hitch pin vertically above or slightly behind the lower hitch pins. The mower should be run with the back 15 degrees lower than the front.

- The hitch can also be adjusted from side to side by turning the adjustment handle. Turn handle until you have achieved your desired location.



**CAUTION**



**ENGAGE PARKING BRAKE, SHUT OFF TRACTOR, REMOVE KEY AND DISENGAGE PTO BEFORE MAKING ANY HEIGHT ADJUSTMENTS!**

## BELT TENSION



**CAUTION**



BELT DRIVE SYSTEM UNDER SPRING TENSION; USE CARE TO AVOID BODILY HARM!

The Belt tension should be checked after the first 20 hours of use. And then every 40 hours of use.

- Tension on the belt can be adjusted with the belt tension bolt. Turn the bolt until desired tension is achieved. When the belt has the correct tension the gearbox should be adjusted so that the gearbox extension is running straight (parallel) with the flail mower. Loosen bolts at the bottom of the gearbox and move gearbox until gearbox extension is running straight.
- Excessive tension on the belt may lead to premature failure of belt and drive components.



**CAUTION**



EXCESSIVE TENSION ON THE BELT MAY LEAD TO PREMATURE FAILURE OF BELT AND DRIVE COMPONENTS. EXCESSIVE TENSION ON THE BELT MAY ALSO LEAD TO A SAFETY HAZARD TO THE OPERATOR OR BYSTANDERS.

## SECTION 4: MAINTENANCE AND LUBRICATION



**CAUTION**



FOR SAFETY REASONS, EACH MAINTENANCE OPERATION MUST BE PERFORMED WITH TRACTOR PTO DISENGAGED, MOWER LOWERED COMPLETELY TO GROUND AND TRACTOR ENGINE SHUT OFF WITH IGNITION KEY REMOVED.

## MAINTENANCE

Proper servicing and adjustment is the key to the long life of any farm implement. With careful and systematic inspection, you can avoid costly maintenance, time and repair.

- After using the mower for several hours, check all bolts to be sure they are tight and check drive belt tension.
- Replace any worn, damaged or illegible safety decals by obtaining new decals from dealer.

## KNIFE REPLACEMENT

**IMPORTANT:** Make sure that the knife is the same length as the others on the mower. This will keep the rotor rotation balanced.

1. Remove bolt and nut.
2. Remove old knife.
3. Install new knife and existing bolt.
4. Secure with nut.

## V-BELT INSTALLATION



**CAUTION**



**BELT DRIVE SYSTEM UNDER SPRING TENSION; USE CARE TO AVOID BODILY HARM!**

1. Remove belt guard fender and belt cover.
2. Disengage belt tension by loosening belt tension bolt until belt can be removed.
3. With tension relieved from belt remove old belt from pulleys.
4. Tighten belt tension bolt.
5. Reinstall belt guard and belt guard fender.

## STORAGE

At the end of the working season or when the mower will not be used for a long period, it is good practice to clean off any dirt or grease that may have accumulated on the mower and any of moving parts.

1. Clean as necessary.
2. Check knives for wear and replace if necessary.
3. Inspect mower for loose, damaged or worn parts and adjust or replace as needed.
4. Store unit inside if possible for longer life.
5. Repaint parts where paint is worn or scratched to prevent rust.
6. Replace all damaged or missing decals.

## LUBRICATION

### Driveline Shaft U-Joints

Type of Lubrication: Multi-purpose Grease



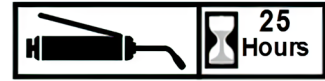
### Roller Bearing (Both Ends)

Type of Lubrication: Multi-purpose Grease



**Cutter Rotor Bearing (Both Ends)**

Type of Lubrication: Multi-purpose Grease



**Gearbox**

Type of Lubrication: SAE 90W Gear Lube



*Check oil level in gearbox by removing the plug located on the right hand side. Oil should be level with bottom of plug hole. Add oil if necessary by removing top fill plug and side plug. Add oil until it flows from side plug hole.*

**Do not overfill!**

**IMPORTANT:** Mower should be level when checking oil in gearbox!

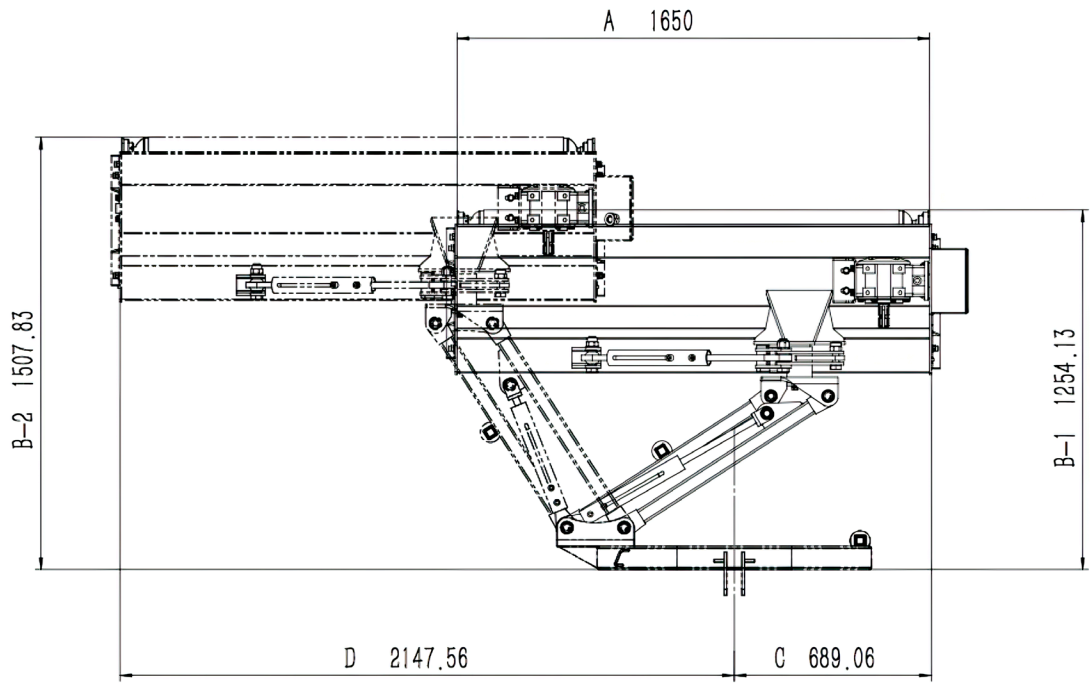
**Driveline Profiles**

Type of Lubrication: Multi-purpose Grease

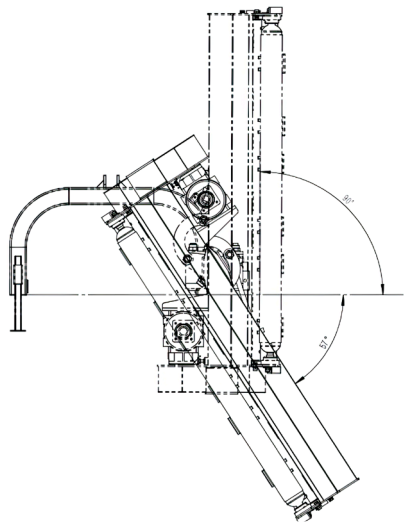


## SECTION 5: SPECIFICATIONS & CAPACITIES



	FRF125	FRF145	FRF165
TRACTOR HP	20-40 HP	30-45 HP	40-50 HP
WEIGHT	630 lb	672 lb	703 lb
CUTTING WIDTH	47 in	55 in	63 in
# OF HAMMER BLADES	20	24	28
HAMMER DIMENSIONS	3.4 in x 1.7 in		
SIDE TRANSMISSION	3 BELTS	3 BELTS	4 BELTS
ROTOR DIAMETER	4.2 in		
ROLLER DIAMETER	4.7 in		
PTO SHAFT SERIES	4		



	A	B-1	B-2	C	D
FRF125	1250mm	1254mm	1507mm	689mm	1747mm
FRF145	1450mm	1254mm	1507mm	689mm	1947mm
FRF165	1650mm	1254mm	1507mm	689mm	2147mm



# SECTION 6: TROUBLESHOOTING


CAUTION


**DO NOT TRY TO CLEAN REAR DISCHARGE AREA WHEN MOWER IS RUNNING. BODILY HARM MAY OCCUR!**

PROBLEM	SOLUTION
<b>BELT SLIPPING</b>	Unplug and clean mower deck.
	Remove belt guard shields and clean sheaves.
	Replace belt.
<b>PATCHES OF UNCUT GRASS</b>	Mow at full throttle (540 PTO rpm), check PTO speed and tractor engine.
	Shift transmission to a lower gear.
	Tighten belts.
	Replace missing knives.
<b>EXCESSIVE VIBRATION</b>	Replace knives.
	Replace drive belt.
	Replace pulleys or align.
	Remove belt guard shields & clean debris from belt area & sheaves.
<b>GEARBOX NOISY</b>	Check lubricant level.
<b>KNIVES SCALPING GRASS</b>	Raise cutting height by adjusting roller.
	Change mowing pattern.
	Reduce speed turns.
<b>UNEVEN CUT</b>	Shift to a lower gear.
	Level mower.
	Replace missing knives.
<b>TRACTOR LOADED DOWN BY MOWER</b>	Mow at full throttle (540 PTO rpm).
	Shift to a lower gear.
	Clean mower.



# SECTION 7: APPENDIX

## BOLT TORQUE

The tables shown below give correct torque values for various bolts and cap screws. Tighten all bolts to the torques specified unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

### ENGLISH TORQUE SPECIFICATIONS

BOLT DIAMETER	BOLT TORQUE					
	SAE 2 N.m	lb-ft	SAE 5 N.m	lb-ft	SAE 8 N.m	lb-ft
1/4"	8	6	12	9	17	12
5/16"	13	10	25	19	36	27
3/8"	27	20	45	33	63	45
7/16"	41	30	72	53	100	75
1/2"	61	45	110	80	155	115
9/16"	95	60	155	115	200	165
5/8"	128	95	215	160	305	220
3/4"	225	165	390	290	540	400
7/8"	230	170	570	420	880	650

### ENGLISH TORQUE SPECIFICATIONS

BOLT DIAMETER	BOLT TORQUE			
	8.8 N.m	lb-ft	10.9 N.m	lb-ft
M3	0.5	0.4	1.8	1.3
M4	3	2.2	4.5	3.3
M5	6	4	9	7
M6	10	7	15	11
M8	25	18	35	26
M10	50	37	70	52
M12	90	66	125	92
M14	140	103	200	148

<b>M16</b>	225	166	310	229
<b>M20</b>	435	321	610	450
<b>M24</b>	750	553	1050	744
<b>M30</b>	1495	1103	2100	1550
<b>M36</b>	2600	1917	3675	2710

Torque figures indicated above are valid for non-greased or non-oiled threads and heads otherwise specified. Therefore, do not grease or oil bolts or cap screws unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

## WARRANTY

IronCraft warrants, only to the original Purchaser, this equipment will be free from defects in material and workmanship, under normal use and service, for one (1) year from the date of purchase providing this equipment is purchased for individual use only.

Commercial use of this equipment is not covered under any warranty. This warranty does not apply to any equipment which has been damaged or which has been subjected to change, misuse, negligence, abnormal wear and tear, alterations, tampering, or failure to follow operating instructions. This warranty does not cover any product or parts not manufactured by IronCraft.

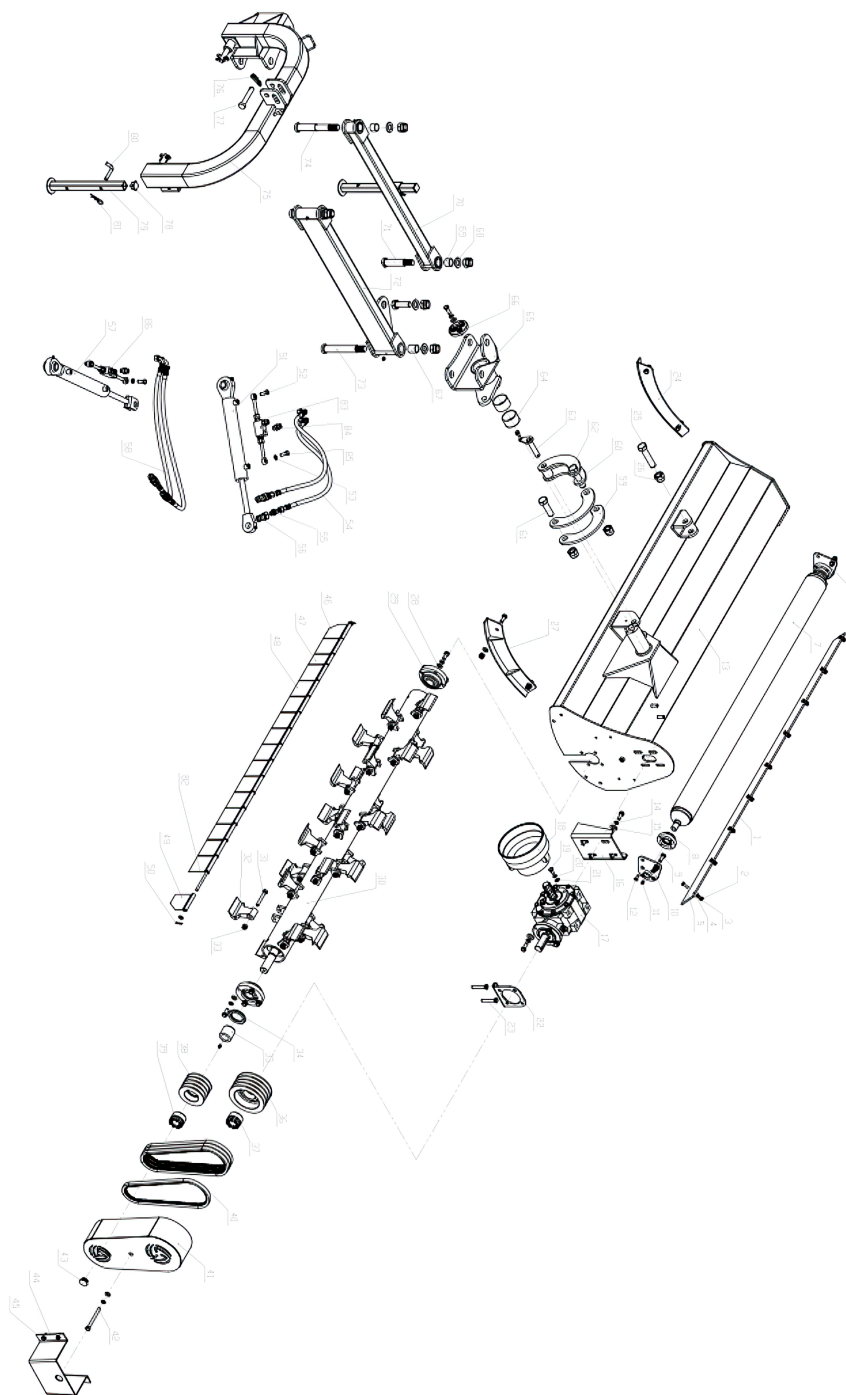
Our obligation under this Limited Warranty shall be solely limited to repairing or replacing any part (see non-covered items) free of charge that, according to our judgment, show evidence of a defect in quality of workmanship or materials for the stated (12) month warranty period. All defective parts will be routed at IronCraft's discretion with freight or delivery charges to be prepaid. This Limited Warranty shall not be interpreted to render IronCraft liable for any injury or damage to persons, business or property of any kind nor expenses or losses incurred for labor, supplies, substitute machinery rental, or for any other reason.

Repair or replacement parts are subject to the supply conditions at the time of repair or replacements, which may directly affect our ability to obtain material and/or replacements parts. IronCraft reserves the right to make improvements in design or changes in specifications at any time without incurring any obligations to owners of previously purchased units. No one other than IronCraft is allowed to alter, modify or enlarge this warranty nor the exclusions, limitation and reservation at any time.

Purchaser's exclusive remedy for breach of warranty, other defect, or conduct giving arise to liability shall be the repair or replacement of the product sold, and the manufacturer under no circumstances shall be liable for economic loss or incidental or consequential damages. The manufacturer disclaims all implied warranties, including the warranty of merchantability and fitness for purpose. Warranties begin after the initial purchase and are non-transferable. Warranties can only be claimed by the original Purchaser: IronCraft may require proof of purchase during the warranty claim process.

# SECTION 8: PARTS ILLUSTRATION

## FRF FLAIL MOWER ASSEMBLY



NO.	CODE	DESCRIPTION	QTY	REMARK
1	FRF1001J	Rubber Plate	1	FRF125
	FR1001		1	FRF145
	FRF1002		1	FRF165
2	FRF1003	Locking Nut M8	7	FRF125
			8	FRF145
			9	FRF165
3	FRF1004	Spring Washer 8	12	FRF125
			13	FRF145
			14	FRF165
4	FRF1005	Plain Washer 8	12	FRF125
			13	FRF145
			14	FRF165
5	FRF101J6	Bolt M8*25	12	FRF125
			13	FRF145
			14	FRF165
6	FRF1007	New Supporting for roller (Right)	1	
7	FRF1000	Rear Roller (New by 121mm diameter)	1	FRF125
	FRF1009		1	FRF145
	FRF1010		1	FRF165
8	FRF1011	Bearing seat with bearing UC205	2	Roller
9	FRF1012	Bolt M12*30	22	
10	FRF1013	New Supporting for roller (Left)	1	
11	FRF1014	Grease nipple M8*1	8	
12	FRF1015	Hex.head bolt M8X25	8	
13	FRF1016	Mower Deck	1	FRF125
	FRF1017		1	FRF145
	FRF1018		1	FRF165
14	FRF1019	Spring washer 12	12	
15	FR.F1020	Bigger washer 12	10	
16	FRF1021	Adjusting frame for the gear box	1	
17	FRF1022	Gear box assembly	1	
18	FRF1023	Guard shade	1	
19	FRF1024	Bolt M10*20	4	
20	FRF1025	Spring Washer 10	4	

21	FRF1026	Plain Washer 10	19	FRF125
			21	FRF145
			23	FRF165
22	FRF1027	Adjusting plate	1	
23	FRF1028	Bolt M12*50	2	
24	FRF1029	Skid (Right)	1	
25	FRF1030	Bolt M24*110	1	
26	FRF1031	Locking Nut M24	8	
27	FRF1032	Skid (Left)	1	
28	FRF1033	Plain washer 12	26	
29	FRF1034	Bearing seat with bearing UC207-Z	2	Rotor
30	FRF1035	Rotor Weldment	1	FRF125
	FRF1036		1	FRF145
	FRF1037		1	FRF165
31	FRF1038	Bolt M12*80	20	FRF125
			24	FRF145
			28	FRF165
32	FRF1039	Hammer	20	FRF125
			24	FRF145
			28	FRF165
33	FRF1040	Locking Nut M12	28	FRF125
			32	FRF145
			36	FRF165
34	FRF1041	Oil seal FB55*80*8	1	
35	FRF1042	Bushing	1	FRF125/145
	FRF1043		1	FRF165
36	FRF1044	Big Belt Pulley	1	FRF125/145
	FRF1045		1	FRF165
37	FRF1046	Power lock 04 type 33X60	1	
38	FRF1047	Small Pulley	1	FRF125/145
	FRF1048		1	FRF165
39	FRF1049	Power lock 04 type 35X60	1	
40	FRF1050	GB/T1154-97	3	FRF125/145
			4	FRF165
41	FRF1051	Belt cover	1	FRF125/145
	FRF1052		1	FRF165

42	FRF1053	Bolt M12*110	1	FRF125/145
	FRF1054	Bolt M12*130	1	FRF165
43	FRF1055	Rubber plug	1	
44	FRF1056	Belt cover protection	1	FRF125/145
	FRF1057		1	FRF165
45	FRF1058	Bolt M8*20	5	
46	FRF1059	Fender	1	
47	FRF1060	Fender	1	
48	FRF1061	Fender	10	FRF125
		Fender	12	FRF145
		Fender	14	FRF165
49	FRF1062	Fender	1	
50	FRF1063	Circlip 3.5*30	2	
51	FRF1064	Swing cylinder	1	
52	FRF1065	Swing bolt M12*1.25*30	2	
53	FRF1066	Combined washer	8	
54	FRF1067	Oil pipe	2	
55	FRF1068	Connetion G1/2-G1/4BSP	4	
56	FRF1069	Quick Couple	4	
57	FRF1070	Side shift cylinder	1	
58	FRF1097	Oil pipe	2	
59	FRF1071	Up moon plate	2	
60	FRF1072	Down moon plate	1	
61	FRF1073	Bolt M24*75	2	
62	FRF1074	Bolt M24*100	1	
63	FRF1075	Pin shaft	1	
64	FRF1076	Bushing 63*68*40	2	
65	FRF1077	swing weldment plate	1	
66	FRF1078	plate	1	
67	FRF1079	Bushing 30*34*40	4	
68	FRF1080	Plain washer 24	8	
69	FRF1081	Bushing 30*34*25	4	
70	FRF1082	arm weldment	1	
71	FRF1083	Pin shaft	1	
72	FRF1084	arm weldment	1	
73	FRF1085	Pin shaft	2	

74	FRF1006	Pin2	1	
75	FRF1087	3-point-linkage	1	
76	FRF1088	Lock pin	3	
77	FRF1089	Top pin shaft	1	
78	FRF1090	Rubber plug	2	
79	FRF1091	stand foot	2	
80	FRF1092	pin shaft	2	
81	FRF1093	R pin	2	
82	FRF1094	Shaft Bar	1	FRF125
	FRF1095		1	FRF145
	FRF1096		1	FRF165
83	FRF1098	Locking valve for swing cylinder	1	
86	FRF1099	Locking valve for side shift cylinder	1	



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