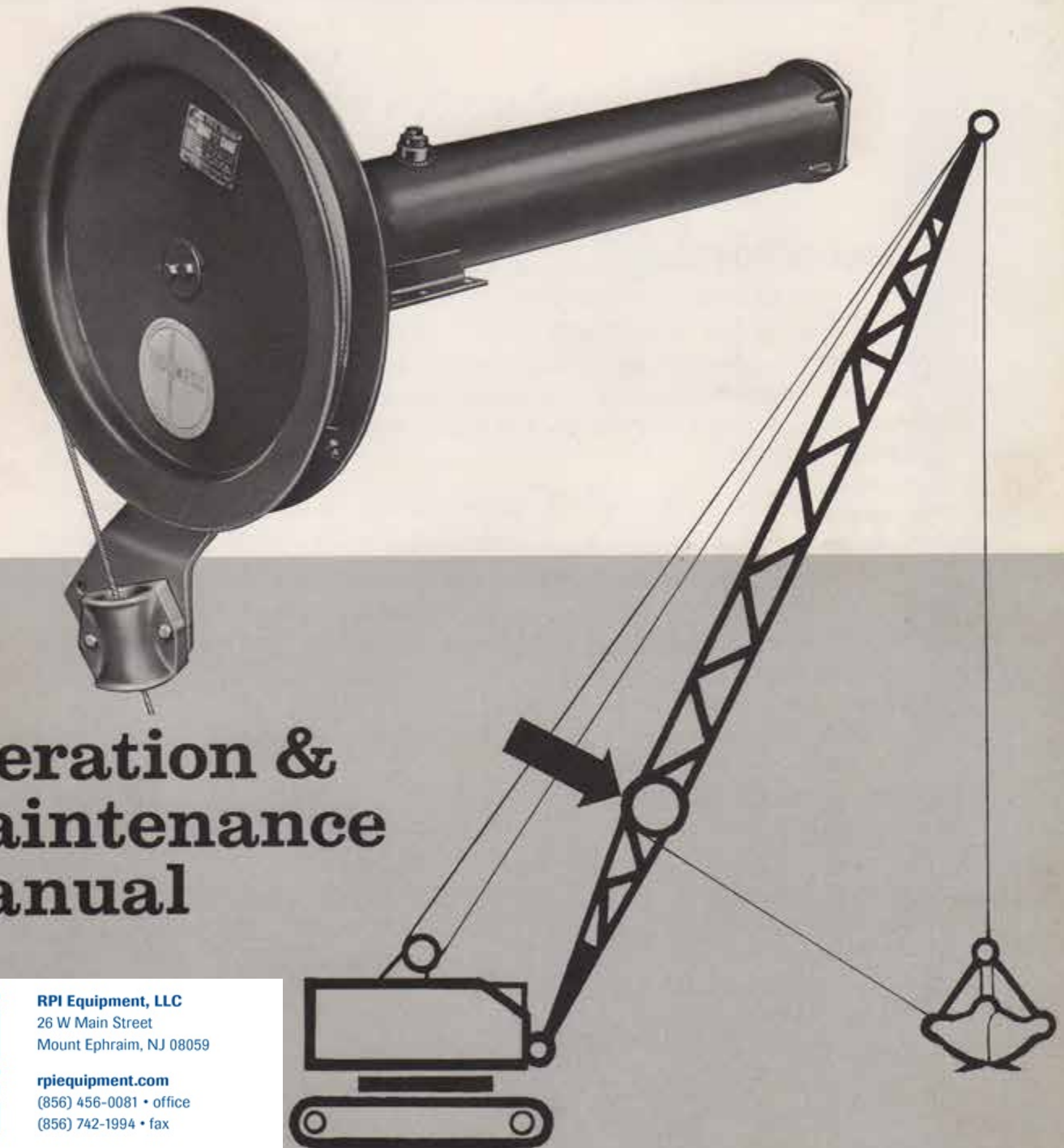


RUD·O·MATIC® Standard Single Barrel Tagline



**operation &
maintenance
manual**



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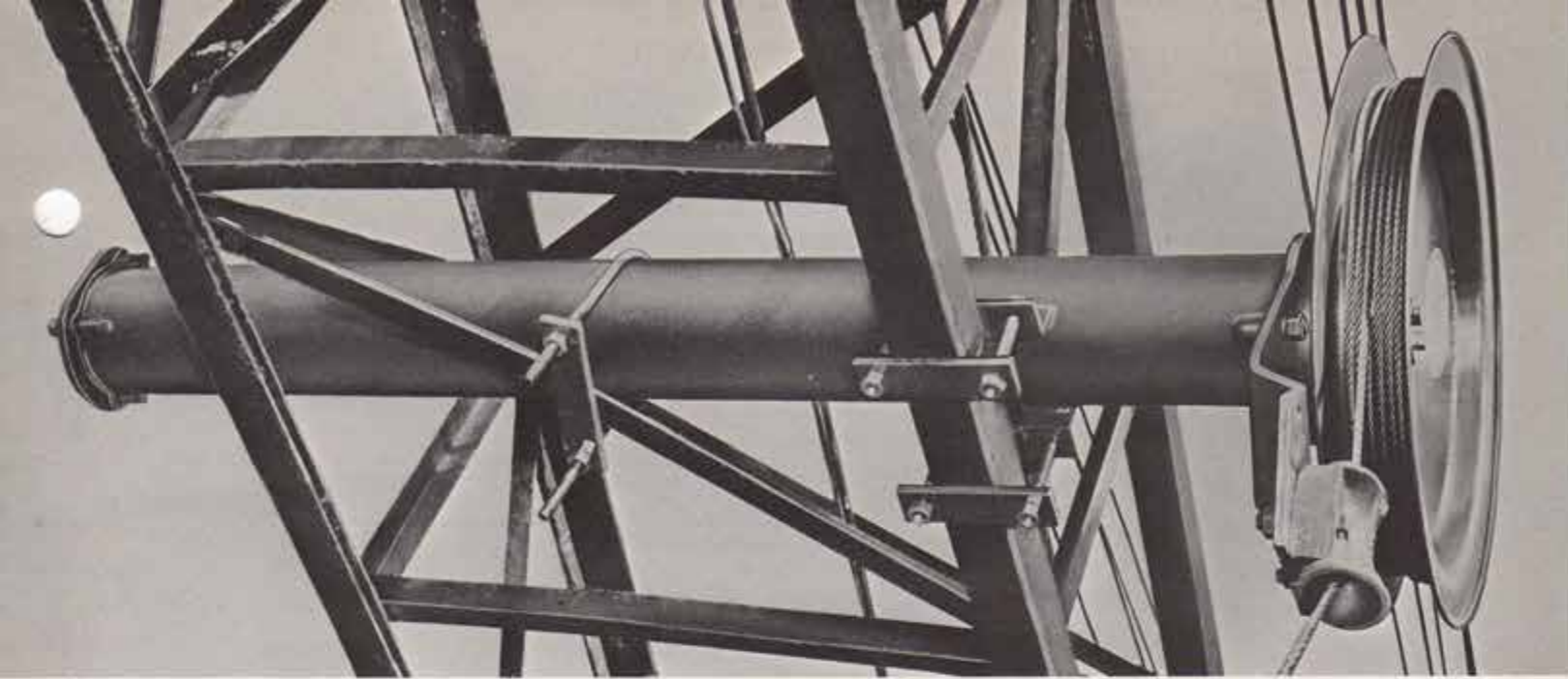


Figure A.

RUD-O-MATIC® Standard Single Barrel Tagline

ADVANTAGES

The Rud-O-Matic® Standard Single Barrel Tagline holds a clamshell bucket steady regardless of the boom angle while the bucket and its load is suspended in air. Operation is completely automatic after installation.

Bell Guide fairlead requires no sheaves, pins, or lubrication.

GENERAL DESCRIPTION

The Rud-O-Matic® Tagline operates on a coil spring system that maintains constant, positive tension on a clamshell bucket or other types of crane loads. The unit mounts on a crane boom and consists essentially of a cable reel, cable wire, spring-loaded cylinders, and a bell guide fairlead.

ASSEMBLY

The unit is completely assembled before shipping.

SAFETY PRECAUTIONS

Wherever applicable, safety precautions are included in paragraphs containing instructions on installation, operation, and maintenance.

LUBRICATION

Use S.A.E. 90 heavy oil. A large decal is plainly visible on housing of every Rud-O-Matic® Tagline and gives precise data on amount of oil required for each model. To lubricate (Fig. B), remove 2½-inch oil plug on housing near cable reel and ½-inch black pipe plug on end plate. Add oil per decal guide until oil level lines up with plug hole on end plate. Do not fill past plug hole. Replace plugs.

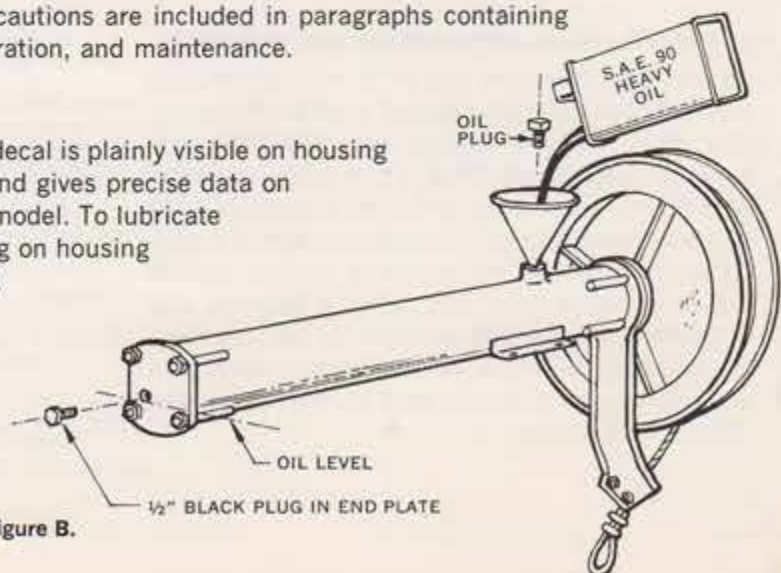


Figure B.

INSTALLATION

The Rud-O-Matic® Tagline is designed to mount with the cable reel on either side of the boom, or the entire unit may be mounted within the boom structure. Installation data for each type of mount is given below.

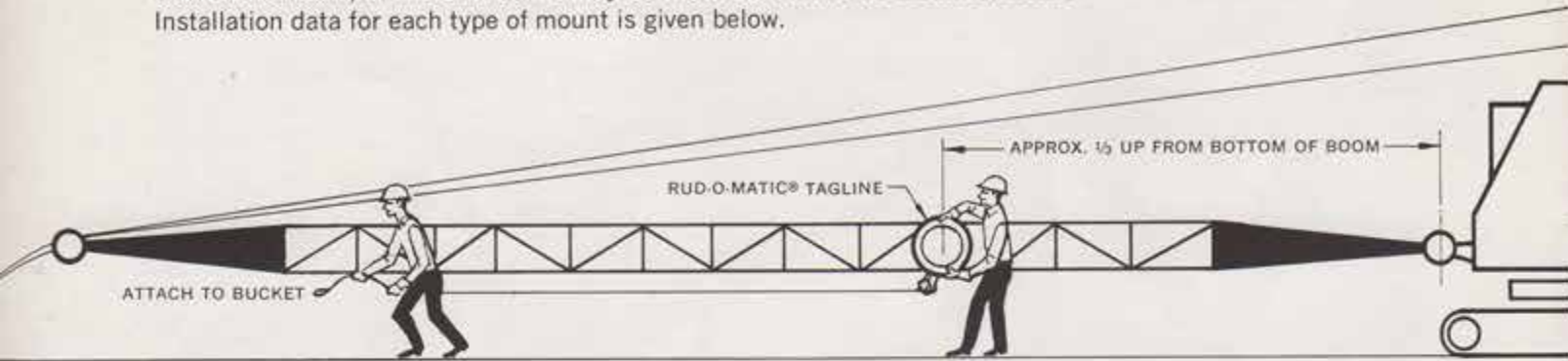


Figure C.

A. Mounting Tagline With Cable Reel Outside Boom

Lower crane boom and bucket to ground level. Materials for securing tagline to boom — U bolt with plate, nuts and lock washers — are located on tagline housing. Remove and use materials furnished as shown in Fig. M, Items 24 and 25. Tagline unit

should be located approximately $\frac{1}{3}$ up from bottom of boom (Fig. C) and set in position between upper and lower angles (Fig. A photo, page 3). Tagline mounts with cable reel on either side of boom. **SAFETY PRECAUTION: ALWAYS MOUNT TAGLINE ON OPPOSITE SIDE OF CRANE OPERATOR CAB.**

1. Mounting Cable Reel On Left Side Of Boom

Secure unit so that steel plate fairlead arm points in direction of bucket (upper boom side) and in position to permit cable to travel smoothly back and forth through bell cable guide. Three bolt holes at end of fairlead arm provide a choice of two positions for attaching bell guide. Use the one that offers best alignment. **Note:** units are shipped ready for mounting on left side of boom.

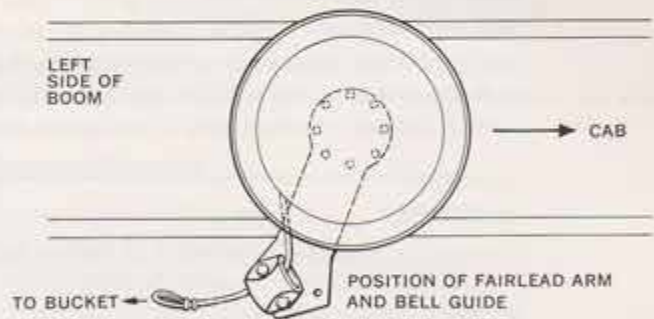


Figure D.

2. Mounting Cable Reel On Right Side of Boom

On this side the cable has to be directed around reel and back out the underside towards the bucket (Fig. E). Position of fairlead arm and bell cable guide will require adjusting so that cable can travel smoothly through guide to bucket. A series of eight bolt holes around upper fairlead arm permit a wide choice of positions for attaching fairlead arm to tagline housing; three bolt holes at opposite end of fairlead arm provide a choice of two positions for attaching bell cable guide. Secure fairlead arm and cable guide to assure best working alignment of cable with bucket.

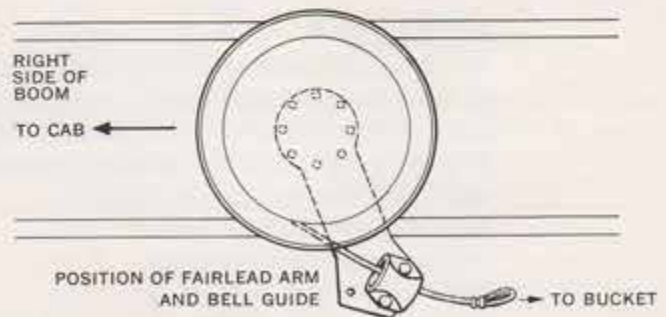


Figure E.

With the tagline now mounted on boom (either side) and the cable still hooked in original position on cable reel, rotate reel (Fig. F) counterclockwise three complete revolutions from neutral position (no tension). Using a two-man team, unhook cable from reel and pass it through bell cable guide. One man holds reel in stationary position while second man secures cable end to bucket (Fig. C). Unit is now functional and ready for pre-operation testing.

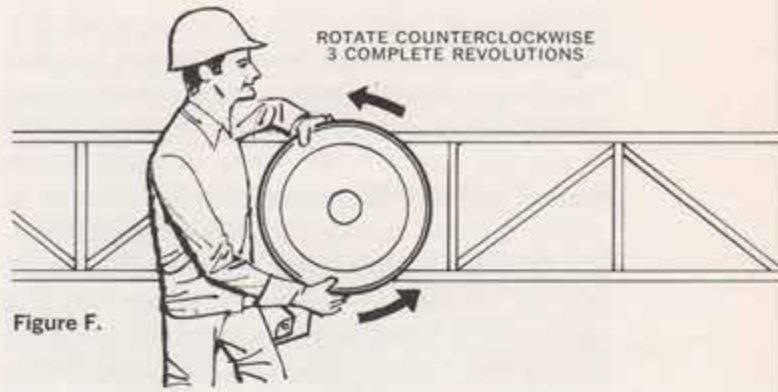


Figure F.

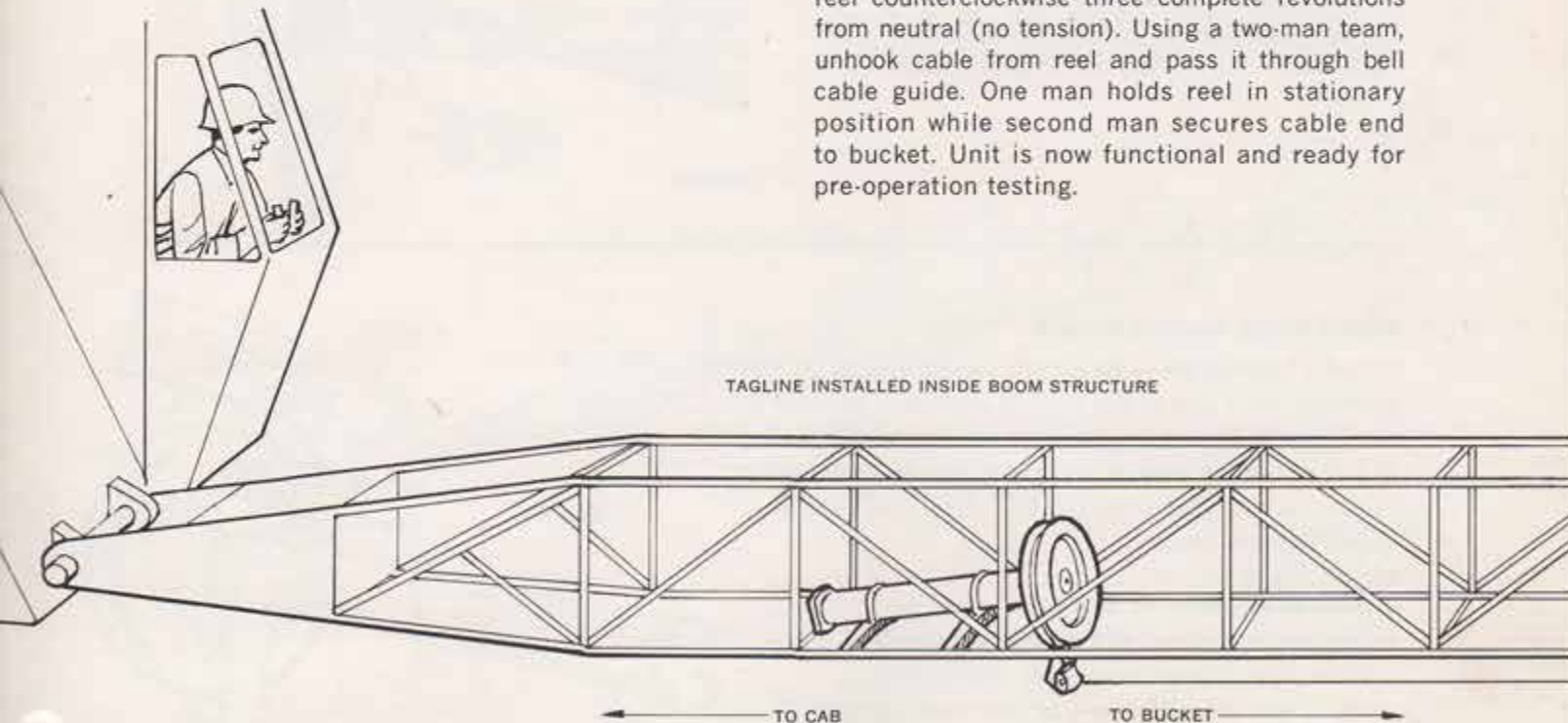
B. Mounting Tagline With Cable Reel Inside Boom

Minimum inside boom diameter of 30 inches is required to mount the complete tagline, including cable reel, inside the boom structure. Locate unit within lower third portion of boom, with the small end plate pointing towards the cab and the tagline housing parallel to the angle of boom height. Exterior flat side of cable reel faces upper boom end (Fig. G).

There is no one preferred method for securing tagline to boom in a fixed position. Several workable methods may be improvised depending on type of

boom in operation. In the majority of installations supports are installed across the boom, with the tagline housing bolted or welded to these supports (Fig. G). In some interior installations it has also proved feasible to separate the bell cable guide from the fairlead arm and attach it to a small plate on the side of the boom. Use whichever mounting method assures best alignment of cable from reel through bell guide to bucket.

After tagline is mounted inside boom and with cable still hooked in original position on cable reel, rotate reel counterclockwise three complete revolutions from neutral (no tension). Using a two-man team, unhook cable from reel and pass it through bell cable guide. One man holds reel in stationary position while second man secures cable end to bucket. Unit is now functional and ready for pre-operation testing.



TAGLINE INSTALLED INSIDE BOOM STRUCTURE

← TO CAB

TO BUCKET →

Figure G.

PRE-OPERATION TEST

Position crane boom over dirt surface at an approximate 35° angle. Raise clamshell bucket to maximum height. Drop bucket to ground in fully opened position. Load and close bucket. Raise to height of not less than 15 feet while swinging bucket through 45° arc. Drop load and return bucket to original position. During test observe tagline operation to make certain crane hoisting and closing lines do not twist enough to cross over and foul operations. If tagline and bucket function smoothly without hindrance, the unit is ready to work. Should twisting occur, additional tension will be required.

To Add Tension. Lower boom to ground level. Using a two-man team (Figs. H & I), turn cable reel counterclockwise releasing enough slack cable to allow for one additional turn of cable around cable reel. Reel must be held in stationary position while cable is wound around it. **THIS IS IMPORTANT.** Cable reel may be held in stationary position by hand (Fig. I), or by placing a wooden block against a gusset on interior side of cable reel (Fig. J). After completion of additional turn, cable reel can be released. Repeat pre-operation test.

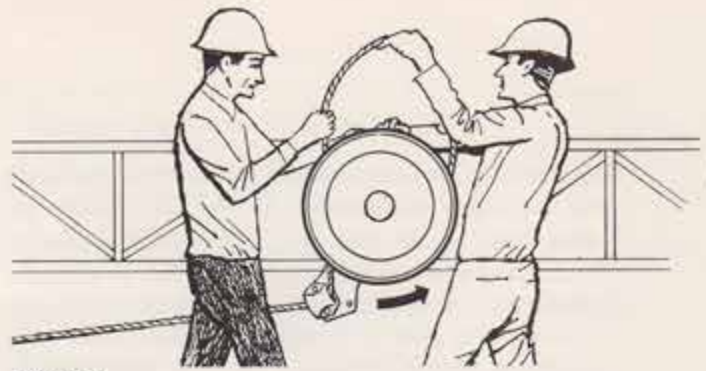


Figure H.

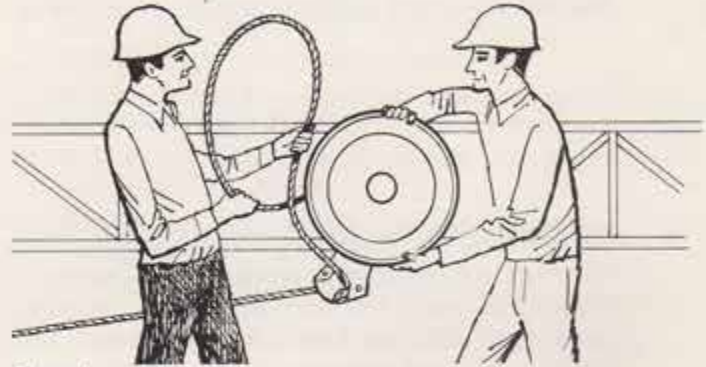


Figure I.

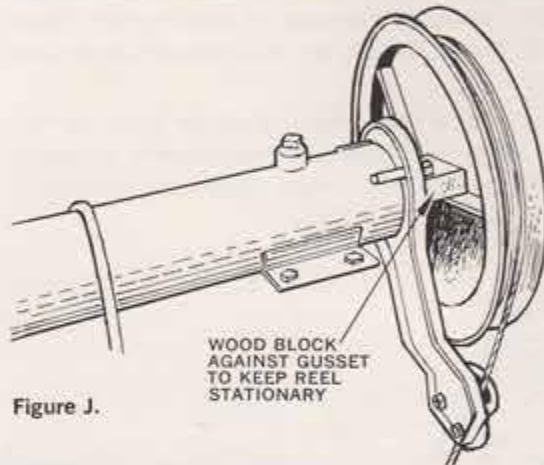


Figure J.

OPERATION INSTRUCTIONS

Tagline operation is completely automatic after installation. No further operational procedure is required.

PREVENTIVE MAINTENANCE

Periodic Lubrication. Lubrication service should be carried out on a quarterly basis and at the start of each new job. Use S.A.E. 90 heavy oil. To lubricate (Fig. K), remove oil plug on tagline housing and ½-inch black pipe on end plate. Add oil as necessary to line up with plug hole. **DO NOT FILL PAST PLUG HOLE.** Replace plugs.

Inspection For Wear Or Damage.

Inspect bell cable guide on quarterly basis. If pronounced groove is apparent, replace bell guide. Check wire rope on quarterly basis for routine wear. **SAFETY PRECAUTION:** carry out inspection procedure at the start of each new job.

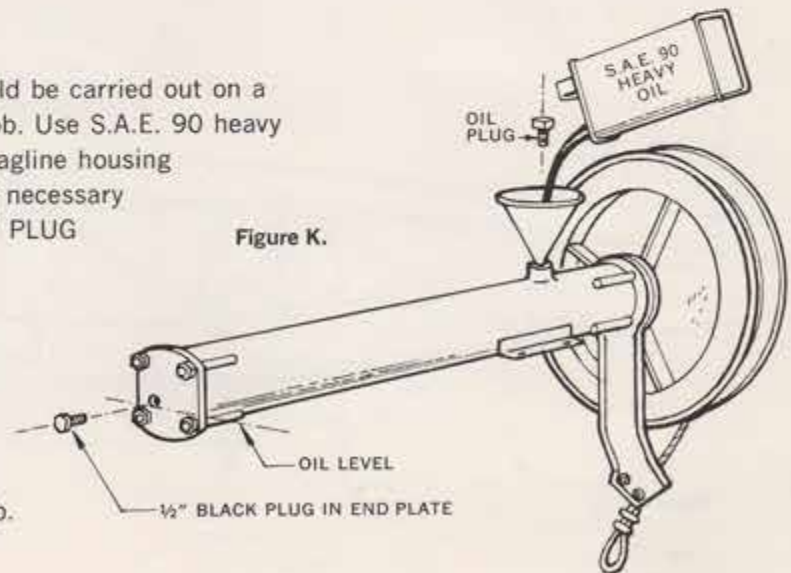


Figure K.

PREPARATION FOR DISASSEMBLY TO REPLACE WORN PARTS

SAFETY PRECAUTION: ALL TENSION MUST BE RELEASED FROM COIL SPRING INSIDE HOUSING BEFORE TAGLINE CAN BE DISASSEMBLED. Alternate procedures for releasing spring tension in tagline housing are given below. Use whichever method best suits type of mount and condition of unit.

1. Release Of Spring Tension With Cable Remaining On Reel

(Note: This method is not recommended when tagline is mounted inside boom.)

Lower boom to ground level. This is reverse of procedure used to add tension and also requires a two-man team. Tagline remains hooked to bucket. One man holds reel in place while second man removes one loop of cable from reel. First man then turns reel **clockwise** one turn to take up cable slack and diminish tension on spring by one turn. This procedure is repeated until all tension on spring in housing is released. Unit is now ready for disassembly.

2. Release Of Spring Tension With Cable Removed From Reel

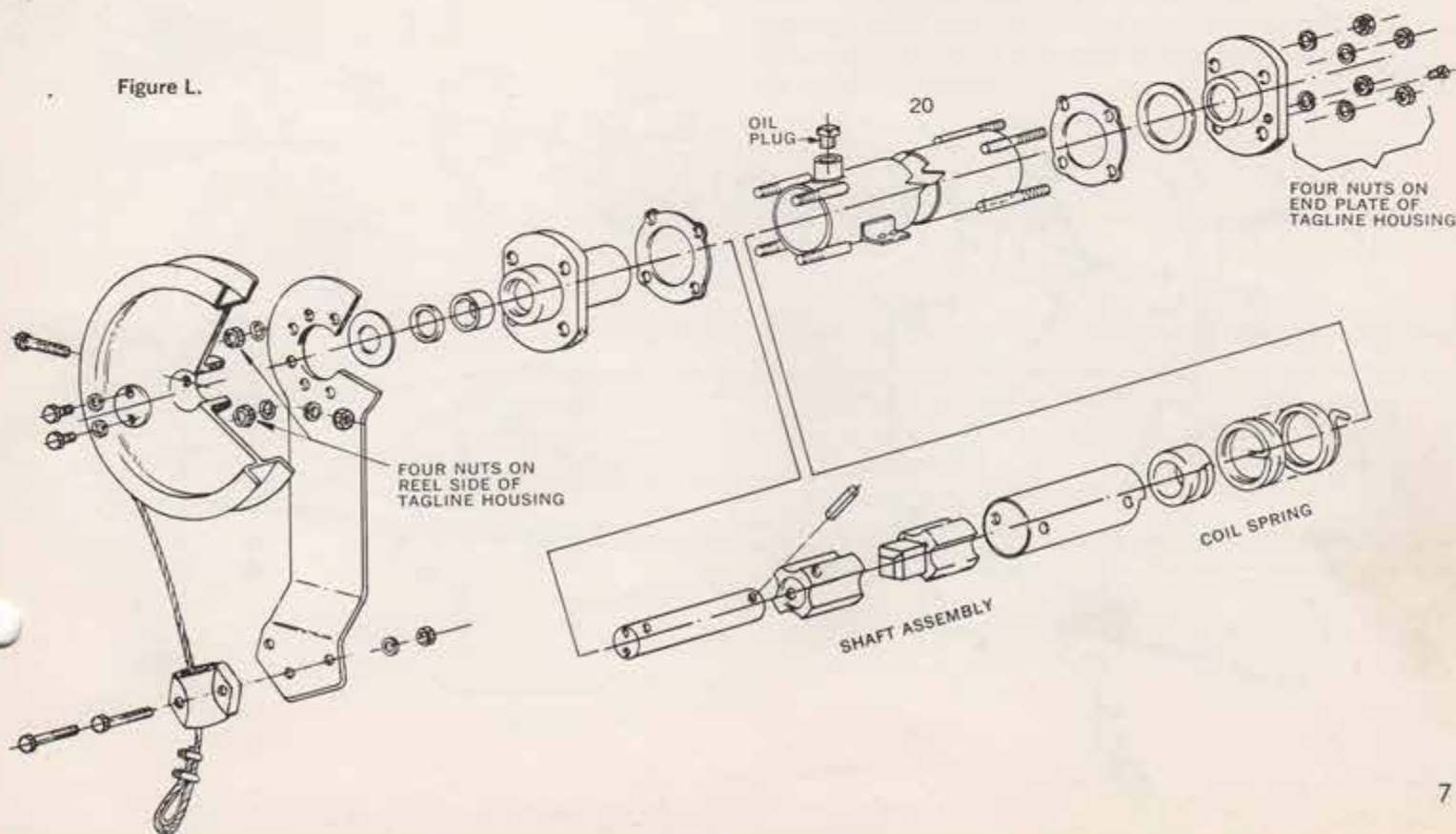
Lower boom to ground level. Cable reel must be in working condition. **IMPORTANT: BEFORE ATTEMPTING TO REMOVE CABLE, REEL MUST BE SECURED IN STATIONARY POSITION.** To accomplish this, turn reel counterclockwise $\frac{1}{4}$ turn and place a wooden block against a gusset on interior side of reel (Fig. J). Unwind all cable and detach end from reel. Cable should be taken completely

away from reel. Turn reel $\frac{1}{4}$ turn counterclockwise to remove wooden block, then permit reel to spin freely until it comes to stop and all spring tension is released. Unit is now ready for disassembly.

3. Release Of Spring Tension When Reel Is "Frozen" Immobile

With boom at ground level, remove all cable and disengage from reel. **SAFETY PRECAUTION: AFTER CABLE IS REMOVED FROM REEL, ALWAYS WORK FROM THE SIDE OF TAGLINE HOUSING UNTIL COIL SPRING IS COMPLETELY UNWOUND. DO NOT STAND IN FRONT OF END PLATE OR CABLE REEL WHEN LOOSENING NUTS TO RELEASE SPRING TENSION.** Using open-end wrench, loosen the four nuts mounted on front end (reel side) of tagline housing (Fig. L, Item 20—left). **DO NOT REMOVE NUTS. LOOSEN ONLY.** Cable reel should now unwind. If unwinding is not smooth and reel tends to stick, **LOOSEN BUT DO NOT REMOVE** the four nuts on opposite end of tagline housing (Fig. L, Item 20—right). If cable still does not unwind, it will be necessary to burn coil spring in tagline housing to release tension. **SAFETY PRECAUTION: MAKE CERTAIN ALL CABLE HAS BEEN REMOVED AND DIS-ENGAGED FROM REEL BEFORE PROCEEDING.** Remove $2\frac{1}{2}$ -inch oil plug on tagline housing near reel. Coil spring can now be seen inside plug hole. Burn through coil with acetylene torch until spring releases tension and unwinds. When spring is completely unwound, tagline is ready for disassembly.

Figure L.



TAGLINE DISASSEMBLY

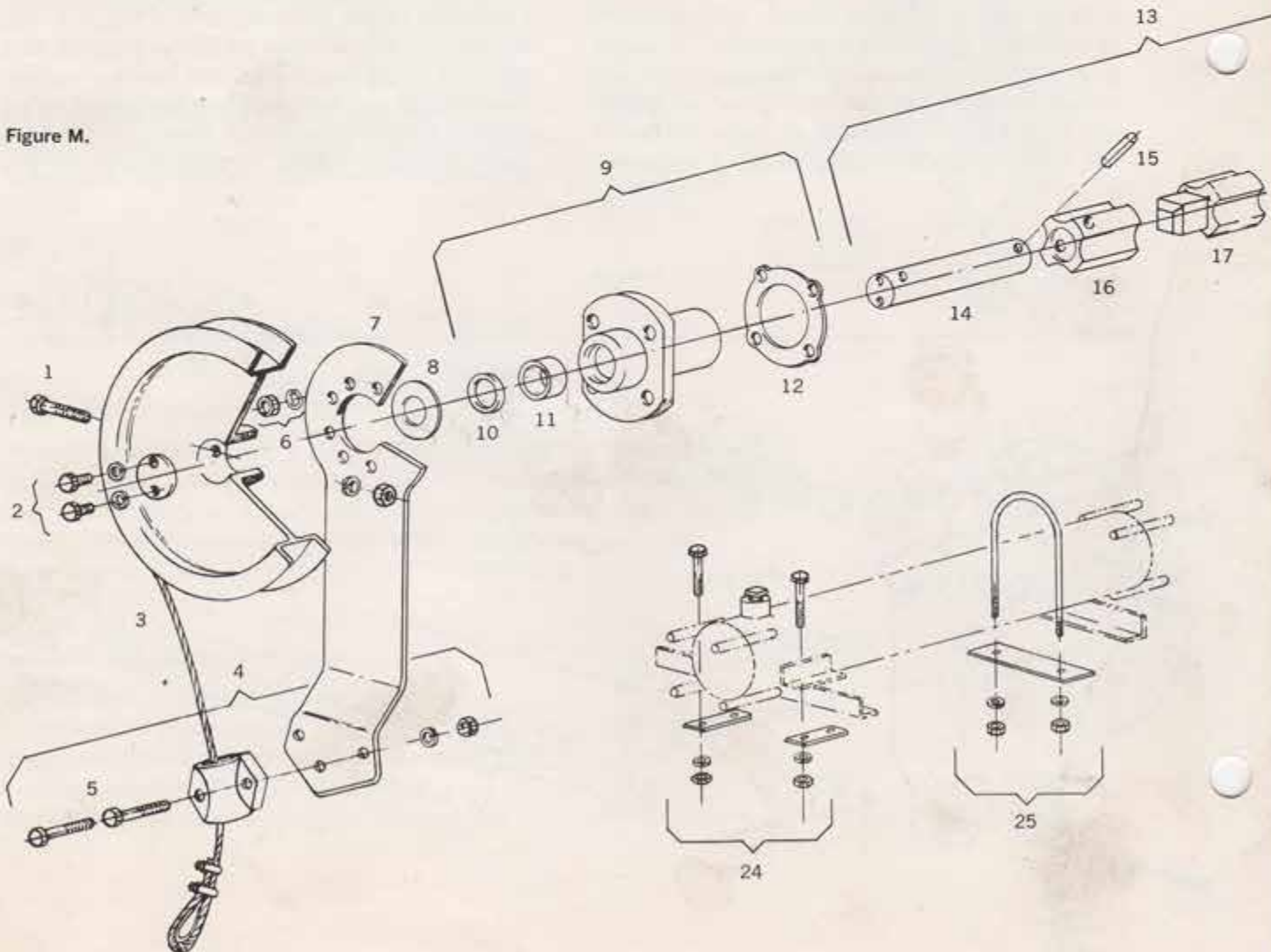
With all tension released from coil spring (see previous section on preparation for disassembly), tagline disassembly can begin. Entire procedure may be carried out with tagline secured to boom. If preferred, however, complete unit can be dismantled from boom prior to disassembly and removed to table or bench for greater working convenience. Dismantling may require burning off U bolts that secure tagline to boom. When tagline is re-mounted it will be necessary to replace U bolts. **SAFETY PRECAUTION: BEFORE STARTING DISASSEMBLY ON BENCH, UNIT SHOULD BE SECURELY TIED DOWN WITH C-CLAMPS OR EQUIVALENT MEANS.**

Disassembly Steps. Refer to Fig. M

1. Using $\frac{3}{4}$ " wrench, remove cap screws from safety plate (Item 2).
2. Remove safety plate.
3. Remove cable reel (Item 3).
4. Remove four nuts connecting fairlead arm to tagline housing (Item 20—left).
5. Remove fairlead arm (Item 7).
6. Remove bearing, oil seal, bushing, and gasket (Item 9). If bearing sticks, clean shaft with emery stick or file.
7. Remove shaft and coupling (Item 13).
8. Remove four nuts connecting small end plate to tagline housing (Item 20—right).
9. Remove end plate, thrust washer, and gasket (Items 22, 21, and 12).
10. Remove propeller, tubing, and coupling welded through back (Items 18 and 17).
11. Remove spring from tagline housing.

Re-assembly Procedure. Reverse disassembly steps listed above.

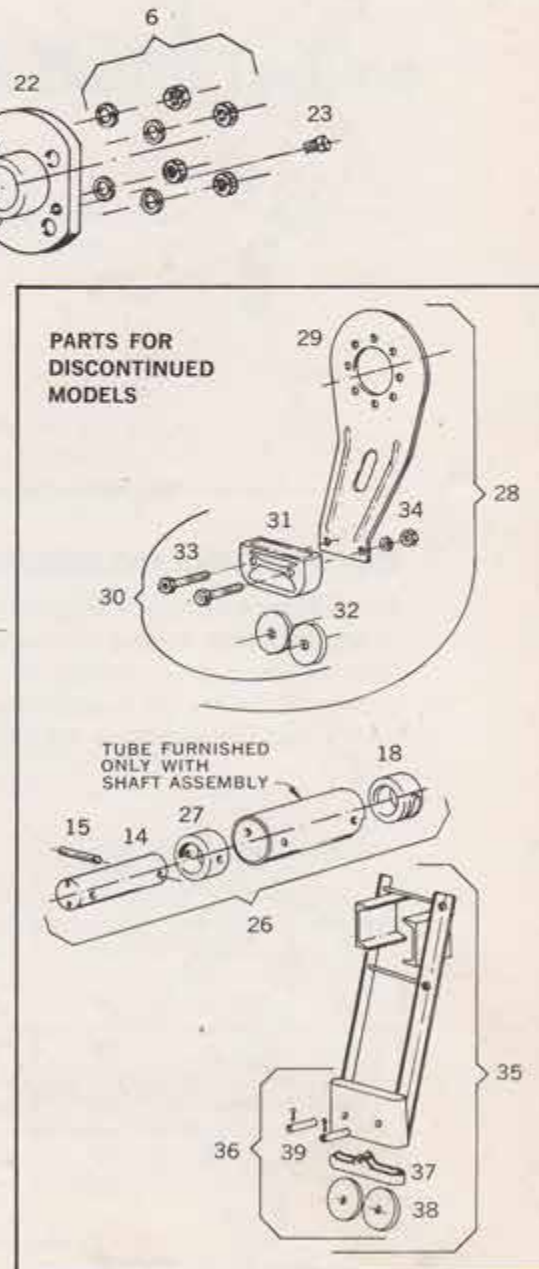
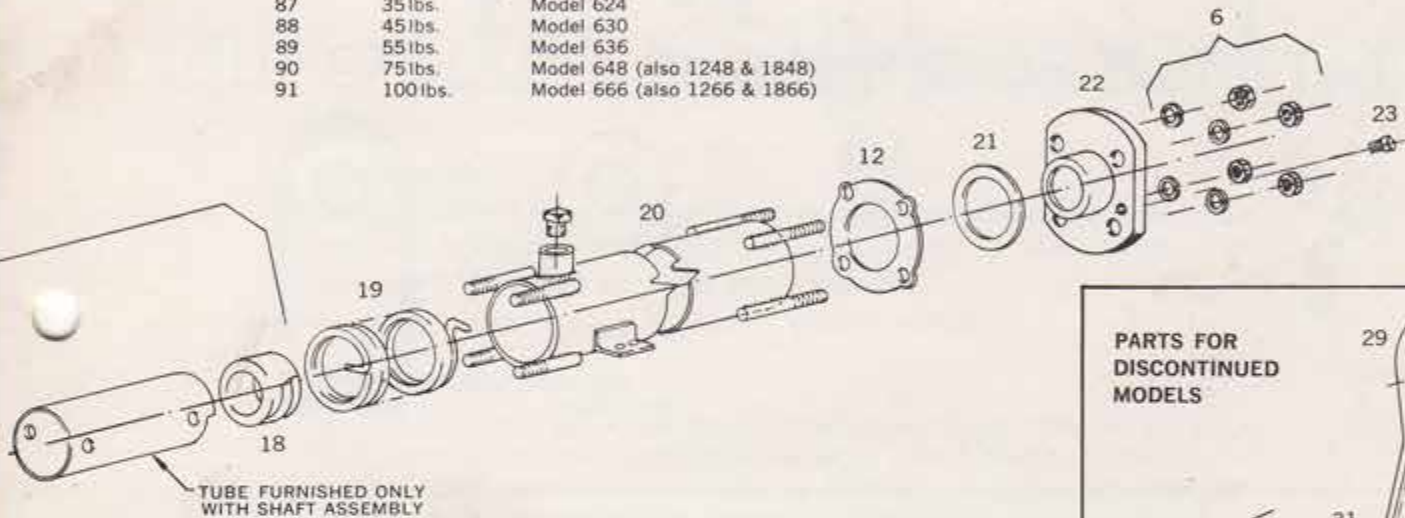
Figure M.



PARTS LIST—RUD-O-MATIC® SINGLE BARREL TAGLINE, ALL MODELS

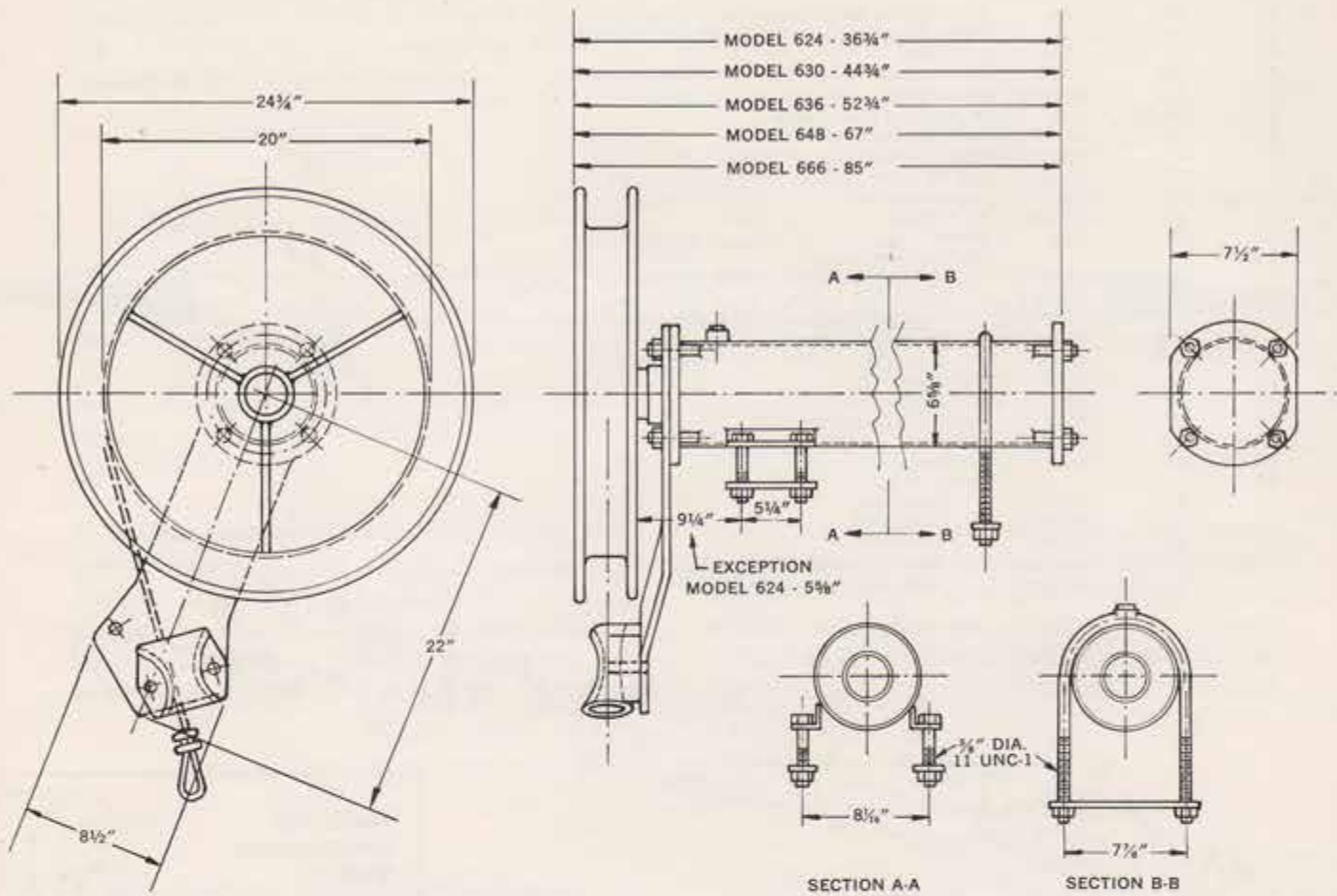
DO NOT USE ITEM NUMBER IN ORDERING — USE PART NUMBER.

ITEM NO.	PART NO.	WEIGHT EACH	DESCRIPTION
1	74	7 oz.	5/8" x 4" Bolt with Nut and Lock Washer
2	34	5 oz.	Safety Plate with Cap Screws and Lock Washers
3	26	30 lbs.	Cable Reel
4	126	10 lbs.	Bell Cable Guide w/Bolts, Nuts & Lock Washers
5	246	15 oz.	Bolt w/Nut & Lock Washer (2 ea. req.)
6	NSF104	3 oz.	5/8" Nut and Lock Washer
7	127	15 lbs.	Steel Plate Fairlead Arm
8	97	4 oz.	Steel Thrust Washer, 2 1/2" I.D.
9	27-397	19 lbs.	Bearing LH w/Oil Seal, Bushing, and Gasket
10	72	3 oz.	Tagline Oil Seal
11	397	1 3/4 lbs.	Oil Bushing
12	73	1 oz.	Gasket
13	—	—	Shaft Assembly for:
	182	36 lbs.	Model 624 Tagline — EL & 10B Series
	183	39 lbs.	Model 630 Tagline — EL & 10B Series
	184	44 lbs.	Model 636 Tagline — EL & 10B Series
	185	51 lbs.	Model 648 Tagline — EL & 10B Series
	186	57 lbs.	Model 666 Tagline — EL & 10B Series
14	35	9 lbs.	Shaft with Pin
15	169	8 oz.	Shaft Pin, 3/4" x 3 3/4"
16	129	7 lbs.	Female Core Coupling
17	128	6 lbs.	Male Core Coupling
18	29	4 lbs.	Propeller LH
19	—	—	Spring LH for:
	87	35 lbs.	Model 624
	88	45 lbs.	Model 630
	89	55 lbs.	Model 636
	90	75 lbs.	Model 648 (also 1248 & 1848)
	91	100 lbs.	Model 666 (also 1266 & 1866)



ITEM NO.	PART NO.	WEIGHT EACH	DESCRIPTION
20	—	—	Housing with Nuts, Lock Washers, Oil Plug (20A) for:
	187	42 lbs.	Model 624 Tagline
	188	50 lbs.	Model 630 Tagline
	189	59 lbs.	Model 636 Tagline
	190	76 lbs.	Model 648 Tagline
	191	96 lbs.	Model 666 Tagline
21	292	4 oz.	Steel Thrust Washer, 2 1/2" I.D.
22	176	9 lbs.	End Plate with Gasket and Pipe Plug
23	401	2 oz.	1/2" Black Pipe Plug
24	42	4 lbs.	Clamping Plate w/Bolts, Nuts, Washers (2 ea. req.)
25	41	6 lbs.	U Bolt w/Plate, Nuts, and Lock Washers
26	—	—	Shaft Assembly for:
	82	29 lbs.	Model 624 Tagline (Closed End Type)
	83	32 lbs.	Model 630 Tagline (Closed End Type)
	84	37 lbs.	Model 636 Tagline (Closed End Type)
	85	44 lbs.	Model 648 Tagline (Closed End Type)
	86	51 lbs.	Model 666 Tagline (Closed End Type)
27	28	4 lbs.	Bushing for Shaft Assembly
28	NSF106	46 lbs.	Fairlead Assembly w/4" Sheaves
29	100	30 lbs.	Fairlead Arm
30	NSF102A	15 lbs.	Cable Guide Assembly w/4" Sheaves
31	NSF102	11 lbs.	Cable Guide
32	NSF103	2 lbs.	Sheave, 4" dia. (2 ea. req.)
33	NSF105	6 oz.	Sheave Pin, 5/8" x 3 3/4" (2 ea. req.)
34	NSF104	3 oz.	5/8" Nut and Lock Washer (2 ea. req.)
35	25	43 lbs.	Fairlead Assembly w/6" Sheaves
36	36	23 lbs.	Fairlead Guide Assembly w/6" Sheaves
37	30	6 lbs.	Fairlead Wearing Plate
38	31	5 lbs.	Sheave, 6" dia. (2 ea. req.)
39	33	7 oz.	Sheave Pin, 3/4" x 3", w/Cotter Pin (2 ea. req.)

MOUNTING DIMENSIONS SINGLE BARREL RUD-O-MATIC® TAGLINE



SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS

Rud-O-Matic® Standard Single Barrel Taglines are manufactured in five models to accommodate various size buckets and booms. Each model is engineered to have sufficient cable pullout with the required positive tension to provide full control of the bucket in operation. Tagline model specifications and manufacturer's recommendations for different buckets and booms are given below.

Model	Weights	Housing Length	Bucket Size	Cable Pullout From Neutral	Maximum Turns of Cable Reel	Spring Dimension (.393 wire)
624	210 lbs.	30"	Small truck cranes	45 ft.	8	6" dia., 24" closed, 36" free, 62 coils
630	235 lbs.	38"	3/8-yd. to 3/4-yd., 30 ft. boom	60 ft.	11	6" dia., 30" closed, 42" free, 76 coils
636	260 lbs.	46"	3/4-yd., 40-60 ft. boom	70 ft.	13	6" dia., 36" closed, 50" free, 91 coils
648	301 lbs.	60"	1 yd. to 1 1/2 yd., 80 ft. boom	90 ft.	18	6" dia., 48" closed, 65" free, 121 coils
666	365 lbs.	78"	1 yd. to 1 1/2 yd., deep digging	135 ft.	25	6" dia., 66" closed, 87" free, 156 coils

Warranty

The McCaffrey-Ruddock Tagline Corporation warrants each new RUD-O-MATIC[®] unit to be free from defects in material and workmanship. If any parts prove defective, new parts will be furnished at no cost. RUD-O-MATIC[®] TAGLINES, RUD-O-MATIC[®] COMBINATION MAGNET REELS AND TAGLINES, and spare parts for these units are warranted for a period of one year from the date of the original sale. All warranty claims must be handled directly with McCaffrey-Ruddock Tagline Corporation, Los Angeles, California.

No warranty is extended on any RUD-O-MATIC[®] unit which has had its serial number altered, effaced, or removed.

This warranty is in lieu of all other warranties, expressed or implied; and no person is authorized to assume for the McCaffrey-Ruddock Tagline Corporation any other liabilities in connection with the sale of RUD-O-MATIC[®] products.

other **RUD-O-MATIC®** coil-spring products



SUPERTENSION® TAGLINE

Exclusive braking mechanism — Rud-O-Brake™ provides extra tension for close in loading and unloading.



DOUBLE BARREL TAGLINE

All RUD-O-MATIC® Taglines come with fairlead and cable attached. Bell Guide fairlead requires no sheaves, pins, or lubrication.



TRIPLE BARREL TAGLINE

Controls the larger size buckets.



RUD-O-MATIC® COMBINATION MAGNET REEL AND TAGLINE

Expensive electric cable cannot become tangled, snagged, or pulled loose from terminals. Protective margin of slack is maintained at all times by steel tagline. Comes with fairlead assembly consisting of pipe and separate sheaves to guide electric cable and wire rope.



DOUBLE BARREL COMBINATION MAGNET REEL AND TAGLINE

For larger magnets and bigger jobs.

HOSE REEL

Supplies compressed air or water wherever needed. Comes with fairlead consisting of separate sheaves to guide wire rope and air or water hose.



TRIPLE BARREL COMBINATION MAGNET REEL AND TAGLINE

Combination Magnet Reel and Taglines are available in 17 different models.



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