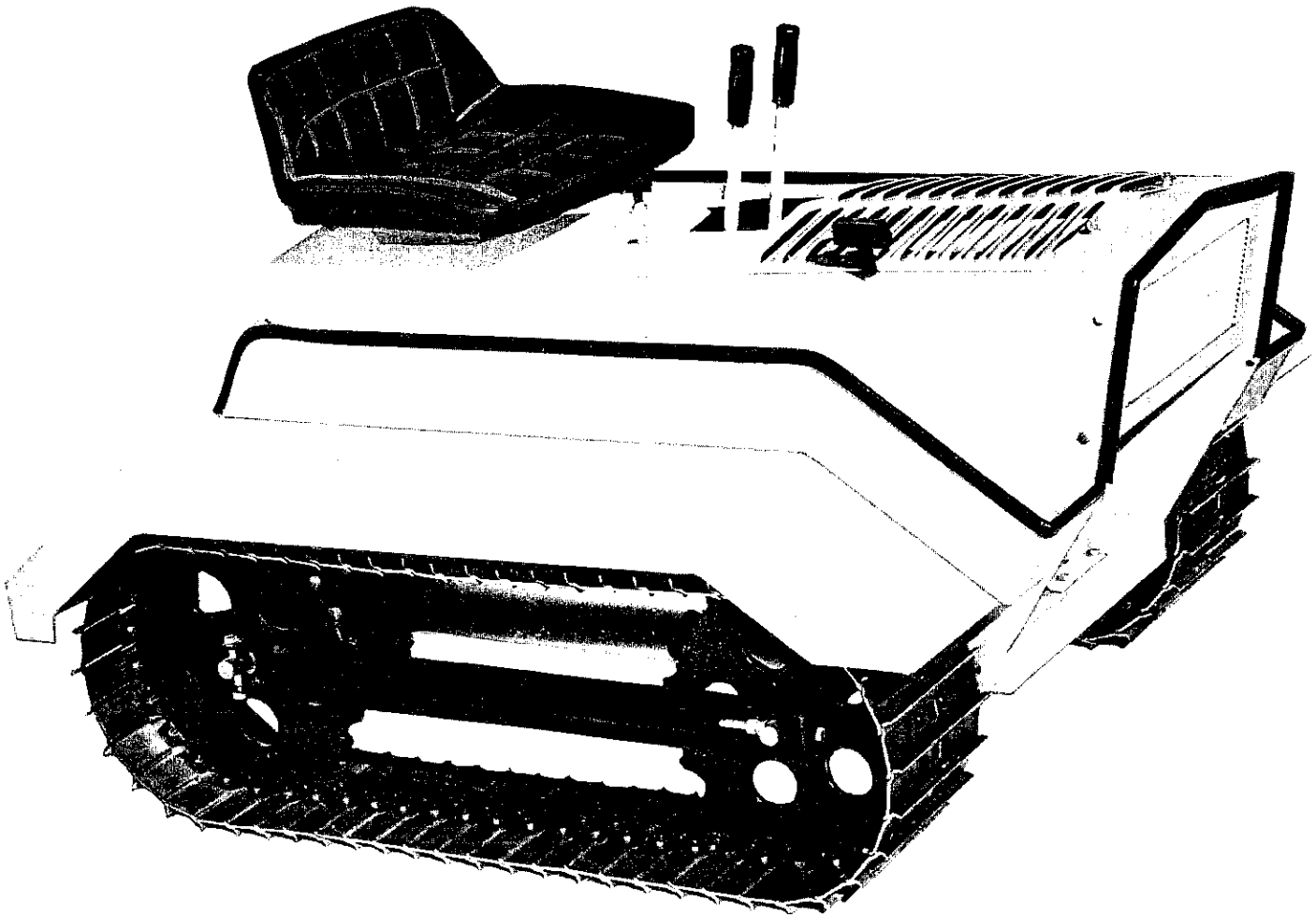


MINI-DOZER

ASSEMBLY MANUAL

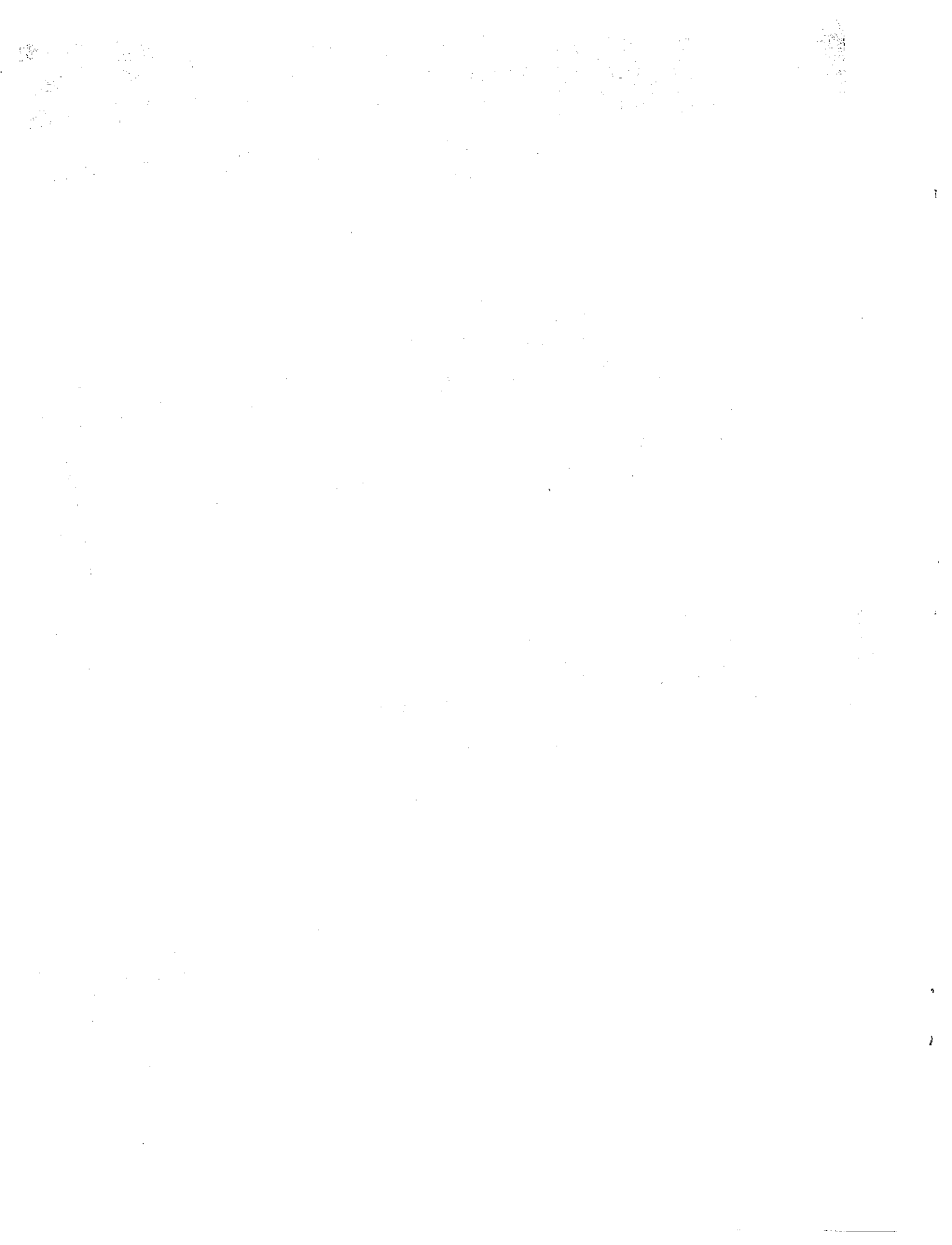
MD50-55



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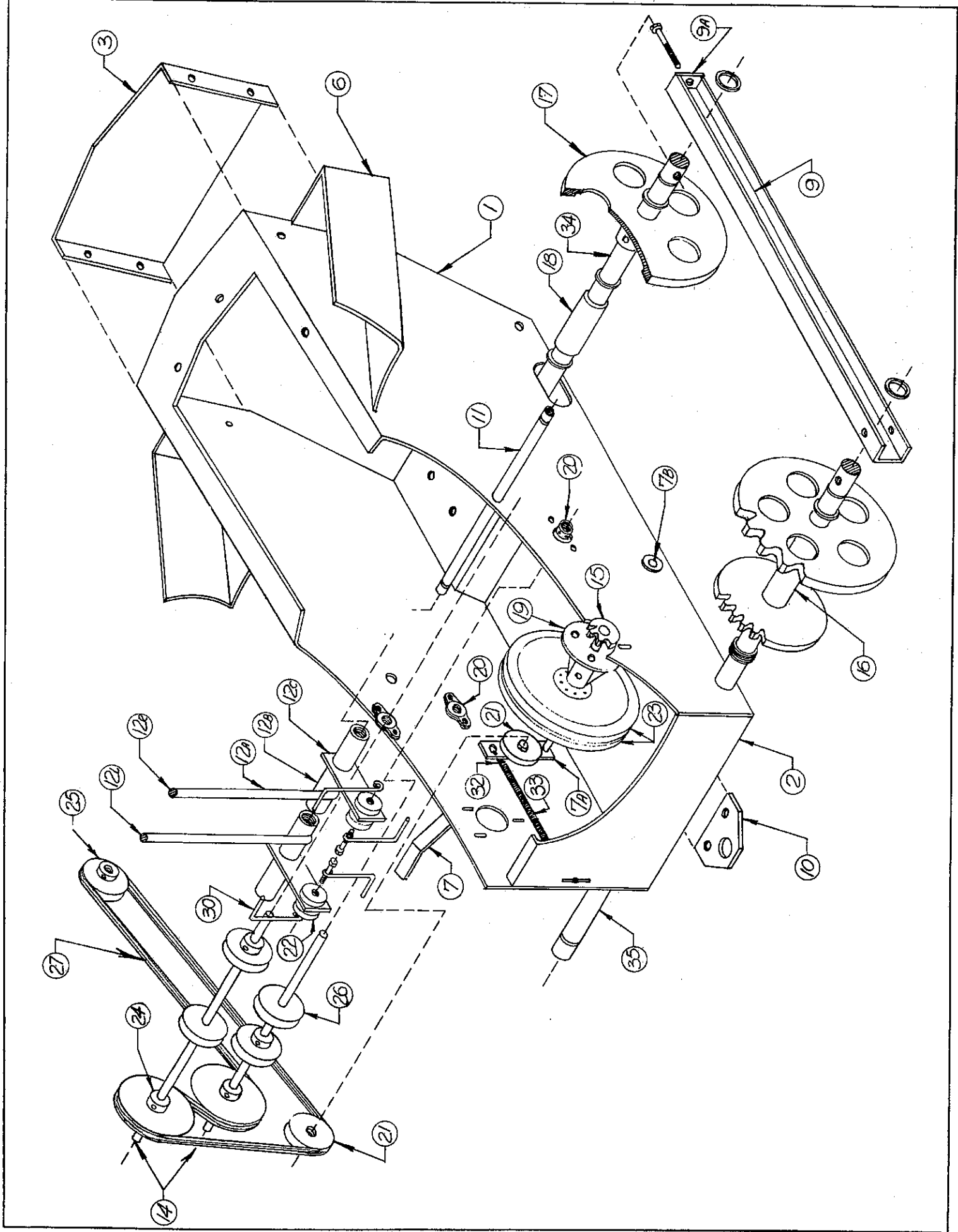
C. F. STRUCK CORP.

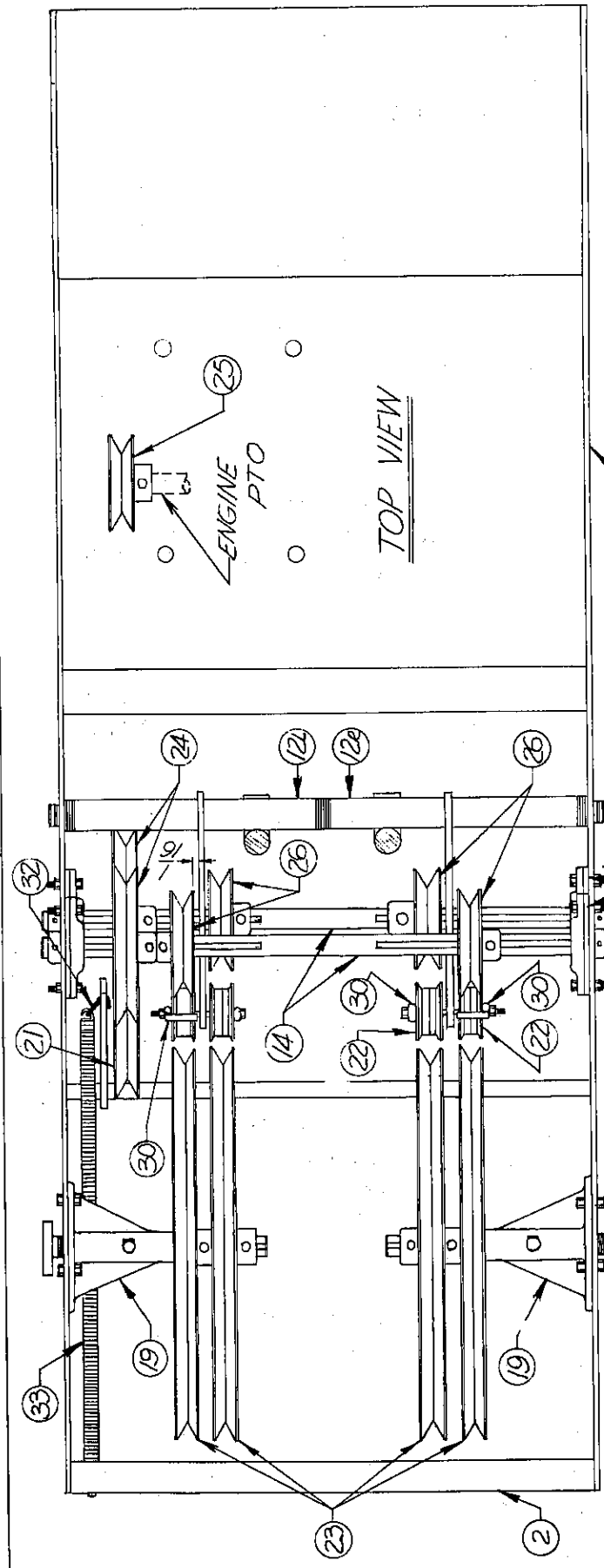


PARTS & PRICE LIST for MINI-DOZER MD50-55

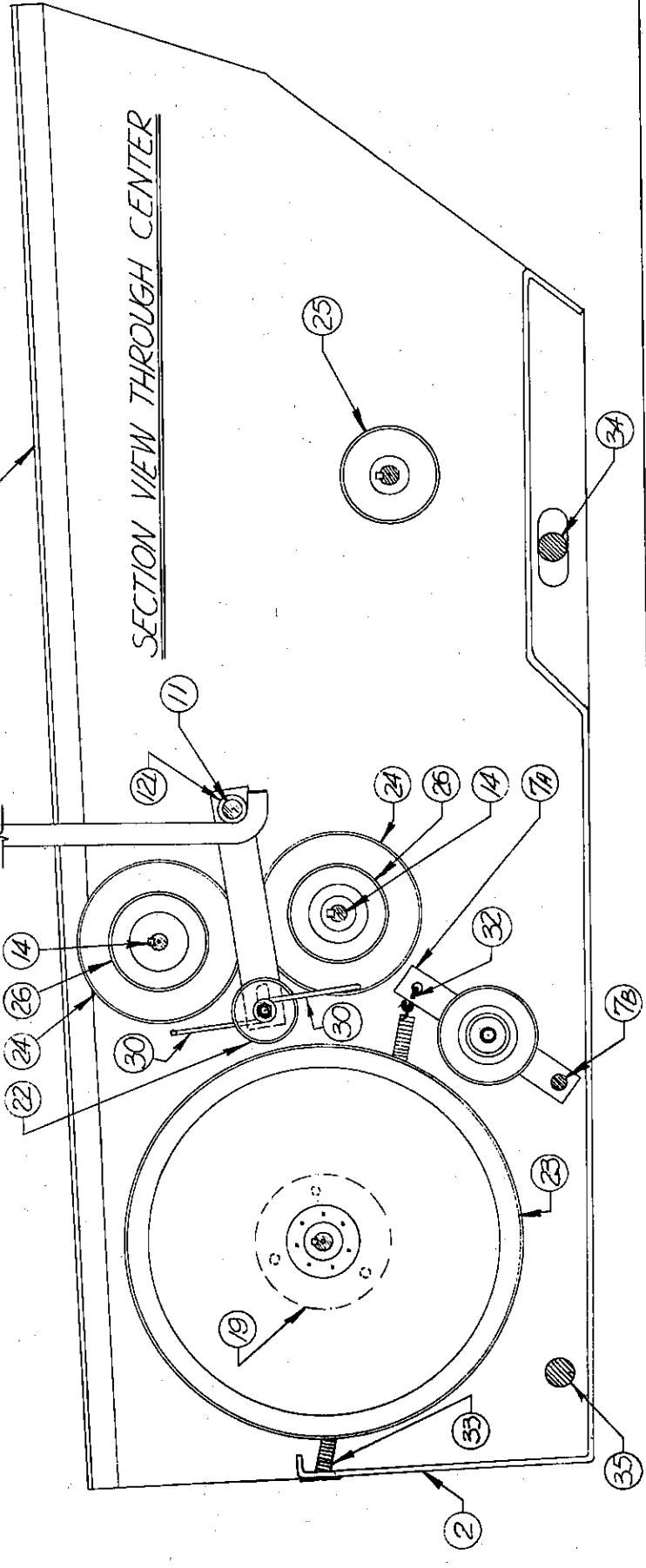
MD50 - AX	Body Assembly	77.50	Key 3/16 sq x 1-5/8 (2)
- 3	Grill	4.90	Key 3/16 sq x 1-1/4 (2)
- 4	Hood	5.40	Key 3/16 sq x 2
- 9R	Track Expander - Right	2.95	Key 3/16 sq x 3
- 9L	Track Expander - Left	2.95	Key 3/16 sq x 4-1/2
- 10	Drawbar	1.20	Snap Ring 7/8 (4)
- 11	Pivot Rod	2.95	Snap Ring 5/8 (2)
- 12R	Clutch - Right	4.95	Washer WI 5/16 (10)
- 12L	Clutch - Left	4.95	Washer WI 3/8 (33)
- 14	Power Shaft (2)	3.45 ea.	Washer WI 5/8 (38)
- 15	Sprocket & Shaft (2)	3.95 ea.	Washer WI 7/8 (30)
- 16	Rear Drive Wheel (2)	24.95 ea.	Lock Washer 1/4 (12)
- 17	Front Idler Wheel (2)	12.95 ea.	Lock Washer 5/16 (12)
- 18	Spacer Tube (2)	.95 ea.	Lock Washer 3/8 (9)
- 19	Flange Bearing (2)	4.95 ea.	Nut 1/4-20 (12)
- 20	Self-aligning Bearing (4)	4.45 ea.	Nut 5/16-18 (10)
- 21	Idler Wheel - 3" 'A' x 3/8 bore	1.90	Nut 3/8-16 (10)
- 22	Idler Wheel - 2" 'flat' x 3/8 bore (4)	1.85 ea.	Carrage Bolt 1/4-20 x 1/2 (8)
- 23	Pulley - 12" 'A' x 5/8 bore (4)	4.40 ea.	Cap Screw 1/4-20 x 3/4 (4)
- 24	Pulley - 5" 'A' x 5/8 bore (2)	1.95 ea.	Cap Screw 5/16-24 x 1 (2)
- 25	Pulley - 3" 'A' x 3/4 bore	1.55	Cap Screw 5/16-18 x 3/4 (4)
- 26	Pulley - 3" 'B' x 5/8 bore (4)	1.40 ea.	Cap Screw 5/16-18 x 1-1/4 (6)
- 27	Belt - AA66	6.95	Cap Screw 3/8-16 x 3/4 (2)
- 28	Belt - 4L500 (4)	2.50 ea.	Cap Screw 3/8-16 x 1-3/4
- 29	Belt Guide, Engine (2)	1.15 ea.	Cap Screw 3/8-16 x 2-1/2 (2)
- 30	Belt Guide, Clutch (4)	1.30 ea.	Cap Screw 3/8-16 x 3-1/4 (2)
- 31	Engine, H70 Lawson - Tecumseh	98.95	Cap Screw 3/8-16 x 4-1/2 (2)
- 32	Clip	.50	Thumb Screw 5/16-18 x 3/4 (4)
- 33	Spring	.45	Cotter Pin 1/8 x 1 (3)
- 34	Front Axle	4.15	Allen Wrench 3/32
- 35	Rear Axle	4.15	Allen Wrench 5/32
- 36	Roller Chain - #40 w/connector (2)	4.85 ea.	Pipe Nipple 3/4 x 11
- 37	Throttle Wire	2.40	(#28 Extra Heavy Duty Steel Cable Belts
- 38	Handgrip (2)	.30 ea.	No. A-48 - 50".....\$ 4.95 ea.
- 39	Track, Lawn		
- 40	Track, Dozer		
- 41	Support 1.90		
- 42	Belt Guide .80		

Kit comes with two complete Tracks with either style of Shoe (Lawn or Dozer) you select.)
 Medium Duty Tracks (Lawn or Dozer Shoe) per set.....\$ 44.95
 Heavy Duty Tracks (Lawn or Dozer Shoe) per set.....\$ 79.95





TOP VIEW



SECTION VIEW THROUGH CENTER

Assembly Instructions MD50-55 Mini-Dozer

Unpacking the KIT:

Care must be exercised in unpacking the Kit to avoid bending or scratching the various components. As the parts are unpacked lay them out neatly and check the parts against the enclosed Parts List. Notify us immediately of any shortages.

Setting up for Assembly:

It is best to set the Body in an upright position on the edges of two saw-horses or on top of a crate. This will allow you to easily work around and underneath the Dozer. **NOTE:** The directions 'Left & Right' and 'Upper & Lower' referred to in the following instructions are determined by standing behind the Dozer and looking forward. 'Inside' refers to the side of a part which is closest to an imaginary center line running down the length of the Dozer. 'Outside' refers to the side farthest from the above defined center line.

Lubrication:

Oil the various Oilite bearing surfaces of #16 & 17 Wheels and #19 Bearings with "3 in 1" oil as you assemble these components. Later lubricate these four Wheels and two Bearings periodically; more frequently when operating the Dozer in dusty or extremely wet conditions or snow.

ASSEMBLY:

1. Slide #35 Rear Axle through 7/8 holes in rear of Body. Slide five 7/8 WI Washers on each end of Axle and then follow with #16 Rear Drive Wheel and two 7/8 WI Washers over each end.
2. Slide #34 Front Axle through forward slots in Body. On each Axle end slide on in this order: one 7/8 WI Washer, #18 Spacer Tube, two 7/8 WI Washers, #17 Front Idler Wheel (hub to the inside), and finally two 7/8 WI Washers.
3. Slide #9R & 9L Track Expanders over ends of Front and Rear Axles as per assembly drawing (slotted end of Expander is forward). Slide 7/8 WI Washer over each end of four Axle ends and secure with 7/8 Snap Rings. (Note: 7/8 WI Washers may be added or removed to give best possible final fit and alignment). Take 3/8-16 x 4-1/2 Cap Screw and slide on 3/8 WI Washer. Slide Cap Screw through hole in front end of each Expander and through hole in Front Axle. Do this to both Right & Left Track Expanders. On ends of each Cap Screw loosely apply two 3/8 Nuts with 3/8 lock washer between. Insert 3/8-16 x 2-1/2 Cap Screw through the two holes in rear of each Expander (you may have to rotate Rear Axle so Cap Screw will pass through) and secure with 3/8 Nut and Lock Washer. **NOTE:** do not over tighten this Cap Screw and crush the Expander!
4. Take #33 Spring and attach 1/8 x 1 Cotter Pin to one end and attach the small loop of #32 Clip to the Spring's other end. Hook larger loop of #32 Clip into 5/8 hole in top of #7A Lever (Check Drawings to see that you have Spring riding close to Body Wall). Secure the Cotter Pin end of Spring by sliding through 1/4 hole in rear of #2 Rear Pan and bend ends over on outside of Pan.
5. Mount #19 Flange Bearings (with oilers up) against inside rear walls of Body using the three 5/16-18 x 1-1/4 Cap Screws provided. Use 5/16 WI Washer over each Cap Screw and loosely apply 5/16 Lock Washer and Nut on outside.

6. Slide five 5/8 WI Washers onto the end of each #15 Sprocket and Shaft. From outside the Body insert each Shaft into the Oilite bushings in #19 Flange Bearings. Take a straight edge and align the faces of the 54 tooth Sprocket on the #16 Drive Wheel with the 8 tooth Sprocket on the #15 Sprocket & Shaft. This alignment can be accomplished by adding more or removing 5/8 WI Washers from the #15 Shaft.
7. Inside Body take 3/16 sq x 1-5/8 Key and insert into keyway of each #15 Shaft. Slide single #23 Pulley over each Shaft end making sure Pulley's hub is toward the inside (toward Tractor's centerline) and is up tight against Oilite bushing of #19 Flange Bearing. Lock set screw on each Pulley and check assemblies on each side for smooth "slop-free" rotation. Next slide second #23 Pulley on each #15 Shaft again keeping the Pulley's hub to the inside. Lock set screws. Slide 5/8 WI Washers on ends of #15 Shaft and secure with 1/8 x 1 Cotter Pin.
8. On each side wrap length of #36 Roller Chain around 8 tooth Sprocket on #15 Shaft and around 54 tooth Sprocket of #16 Drive Wheel - secure with connector link. Draw up on Flange assemblies to tighten Chain and then tighten the three Cap Screws on each side.
9. Slip 3/8 Lock Washer over end of 3/8-16 x 1-3/4 Cap Screw and slide into 3/8 WI Washer. Then Slide into "loop" end of #42 Belt Guide. Follow with three 3/8 WI Washers, slide into #21 idler Wheel and then into three more 3/8 WI Washers. Insert into threaded hole of #7A Lever and leave loose. Note: After completion of Step #16 check the above assembly for correctness against MD50-42 Assembly Drawing (see that #27 Belt is between #21 Idler Wheel and #42 Belt Guide) and then tighten Cap Screw.
10. Assemble #20 Self-aligning Bearings by placing a spherical bearing unit between two stamped mounting halves and mount these assemblies to inside of Body Wall with 1/4 - 20 x 1/2 Carriage Bolts provided. Loosely apply 1/4 Lock Washers and Nuts to above Bolts which should protrude outside Body. Follow this assembly at all four Bearing locations.
11. Take Allen Wrench provided and loosen the two set screws in each #20 Bearing Unit. Check to see that Bearing Units have their hub (off-set section with set screws) on outside of Body. Slide #14 Power Shafts into these Upper & Lower sets of #20 Bearings (check assembly drawing for proper final locations).
12. Slide out end of Upper #14 Power Shaft. On inside end of Shaft slide on two #26 Pulleys and a single #24 Pulley (check assembly drawing to make sure you have the hub of #24 Pulley toward inside and hubs of two #26 Pulleys facing outside). Slide on two #28 Belts and one #27 Belt; then re-insert end of #14 Shaft into #20 Bearing.
13. Slide out one end of Lower #14 Shaft and inside slide on two #26 Pulleys and single #24 Pulley (this time hub of #24 Pulley is facing inside and hub of #26 Pulleys are also facing inside). Slide on the other two #28 Belts and re-insert end of Lower #14 Shaft into #20 Bearing.
14. Tighten all eight 1/4 Carriage Bolts holding the four #20 Bearings to inside of Body. Center #14 Shafts and securely lock set screws in each bearing.
15. Now insert the 3/16 sq Keys in the keyways of the Upper & Lower #14 Shafts. The Upper #14 Shaft has a 1-1/4 long Key on the right and a 3 long Key on the left. The Lower #14 Shaft has a 1-1/4 long Key on the right and a 4-1/2 long Key on the left.

16. Now align the two #24 Pulleys with the previously mounted #21 Idler Wheel so they all have a common vertical center line; then tighten set screws. Next align the #26 Pulleys with their mating #23 Pulleys mounted on the #15 Shafts (note drawings to check that #26 Pulleys on Upper #14 Shaft align with mating #23 Pulleys mounted to the outside on #15 Shafts. Also check that the #26 Pulleys on Lower #14 Shaft align with mating #23 Pulleys mounted to the inside on #15 Shafts). Tighten all set screws. Slip #28 Belts around mating Pulleys per above alignment instructions. (Check Belt Diagram for correctness of above and at same time "thread" #27 Belt around #24 Pulleys and loop end of #27 Belt around #21 Idler Wheel.)

17. Assemble #12R & 12L Clutches at this time (check drawing to note difference between #12R & 12L.) Using 3/8-16 x 3-1/4 Cap Screw with 3/8 WI Washer over one end, slide into #30 Belt Guide. Follow with three 3/8 WI Washers, slide into #22 Idler Wheel and follow with three more 3/8 Washers. Then slide into slot in arm of #12R Right Clutch. On other side slip on three more 3/8 Washers, #22 Idler Wheel, three 3/8 Washers, #30 Belt Guide, 3/8 Washer and secure with 3/8 Lock Washer and Nut. (Check assembly drawing at this time to make sure you have the various parts in the proper order and that the #30 Belt Guides - specifically the "hooked ends" - are facing the proper direction.) Align #30 Guides so they make approximately a 90° angle with the slotted arm of the Clutch and then loosely lock 3/8 Nut.

18. Repeat above Step #17 with the #12L Left Clutch; again checking that the #30 Guides will be facing the proper direction in the final assembly of the Dozer.

19. Insert above Clutch assemblies #12R & #12L into respective locations inside Body. From outside Body slide #11 Pivot Rod through Body Wall and then through tube of each Clutch. (Check Belt Diagram for proper Belt wrapping over #22 Idlers).

Note that Clutches have freedom to slide back and forth on the #11 Pivot. At this time by sliding Clutches back and forth align the #22 Idler Wheels with their respective #23 Pulleys mounted on #15 Shafts. Remove #11 Pivot and re-insert using 5/8 WI Washers as spacers to hold alignment determined above. Secure with 5/8 Snap Ring on each end of #11 Pivot Rod.

20. Now you must properly adjust #22 Idler Wheel units you assembled above. Slide this Wheel unit rearward (or forward as the case may be) so that the Clutch control handles can move forward and backward a total distance of approximately 1-3/8" as measured in the rectangular opening of the #4 Hood. Make this travel equal in both control handles and then tighten each 3/8 Cap Screw. (Check for proper 90° angle as explained in Step #17.) NOTE: check to make sure that all four #30 Guides ride with the "hooked end" to the outside of each #28 Belt. In proper operation as the #22 Idler moves back from tightening a #28 Belt, simultaneously the "hooked end" of the #30 Guide should start to hit the backside of the #28 Belt and start to pull it in to eliminate any excessive slack.

21. Take Engine and slide on #25 Pulley using remaining 3/16 sq x 2 Key. Also install the two #29 Belt Guides using a 5/16 Lock Washer and 5/16 WI Washer over each end of 5/16 - 24 Cap Screws which are inserted into the #29 Guide's loop end and then apply a second 5/16 Washer and loosely screw Cap Screws into rear threaded holes of Engine Case. (See "Engine - PTO View" drawing for proper placement.) Install Engine in Engine Compartment of Dozer keeping the gas tank forward. Mount Engine to Body's floor with four 5/16 - 18 x 3/4 Cap Screws coming up from the underside of Body. Slip end of #41 Support over the two rear Cap Screws and loosely apply 5/16 Lock Washers and Nuts over each Cap Screw. Square Engine in Body (PTO should be at approximately a 90° angle with the inside Body wall) and then tighten the four Cap Screws.

22. Align the #25 Pulley with the two #24 Pulleys and the #21 Idler Wheel; then tighten Pulley set screw. Loop free end of #27 Belt over #25 Pulley keeping the #29 Belt Guides on the outside of Belt. Release #7 Safety Clutch Handle by moving it forward and slightly outward so that it misses engagement with the Clip (welded to Body) on its way backward. This rearward motion is caused by tension from the #33 Spring and allows the #21 Idler Pulley to move back and apply tension to the #27 Belt.

23. At this point rotate the two #29 Belt Guides so that the #27 Belt (when under tension) is 1/8" under the "looped end" of the two Guides. Guides should be on the outside of the #27 Belt. (Check "Engine - PTO View" drawing for proper positioning of these two Guides.)

24. Slide in #3 Grill from the front of Body and fasten with four 1/4 - 20 x 3/4 Cap Screws using 1/4 Lock Washers & Nuts on the inside of Body.

25. Attach #10 Drawbar under #2 Rear Pan with two 3/8 - 16 x 3/4 Cap Screws, Lock Washers & Nuts provided.

26. Mount #37 Throttle Wire through 5/8 hole in top center of Body and secure underneath with nut provided. (See Sketch "A" for proper installation of remaining end of Throttle Wire to Engine)

27. Pull up on Engine starter rope and tie a "Loop Knot" to keep it from retracting. Remove Handle from rope and insert rope through 3/8 hole above. Re-assemble Handle on rope end and remove knot to allow rope to recoil.

28. At this point check Engine manual and fill crankcase and gas tank as per instructions. Take can of "3 in 1 oil" (or similar fine oil) and generously lubricate the oilers in the #19 Flange Bearings, #16 Drive Wheels and the oilers in the #17 Front Idler Wheels. Repeat this oiling periodically to renew the Oilite Bearings oil supply. The #21 & #22 Idler Wheels and the #20 Bearings all have sealed ball bearings and are lubricated for life.

29. Loosen lock nut on 45° Street Elbow coming from the exhaust port on Engine. From below slip end of 3/4 x 11 Pipe through 1-1/16" hole in #41 Support and screw into Street Elbow. On other end of Pipe screw on muffler. After both joints are tight and properly located tighten lock nut on Street Elbow. (Note: you may want to loosen the two Cap Screws holding the #41 Support to help in aligning the Pipe with the Street Elbow). Mount #4 Hood on top of Body and secure with four 5/16-18 x 3/4 Thumb Screws.

30. Unroll lengths of Track Chain and assemble into two continuous Tracks by sliding the two ends together - as this Chain is made to fit tightly you may have to strike the edge of one link to drive it into the "hook" of the other link. (Above assembly applies only to #55-K1 medium duty Track Chain.) On #550-K19 heavy duty Track Chain connect lengths together using connector link provided and secure with cotters. (Check to make sure that "offset" tabs on each link are offset to the outside of the Track so that the Track Shoes may bolt flatly against each link.) Loop above Chain around Front & Rear Wheels #17 & 16.

31. With both Track Chains in place, draw up on the two 5/16 - 18 x 4-1/2 Cap Screws to tighten the Chains, then lock in place with remaining lock washer and nut.

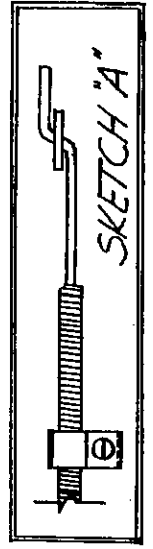
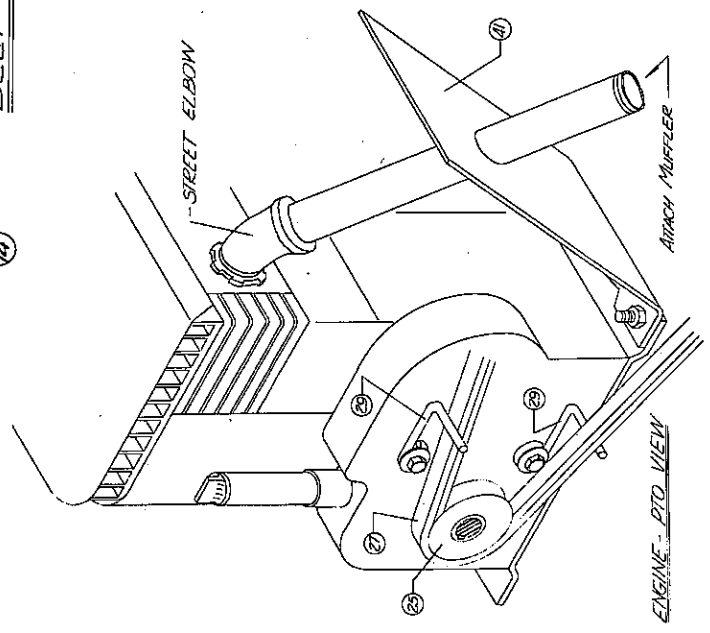
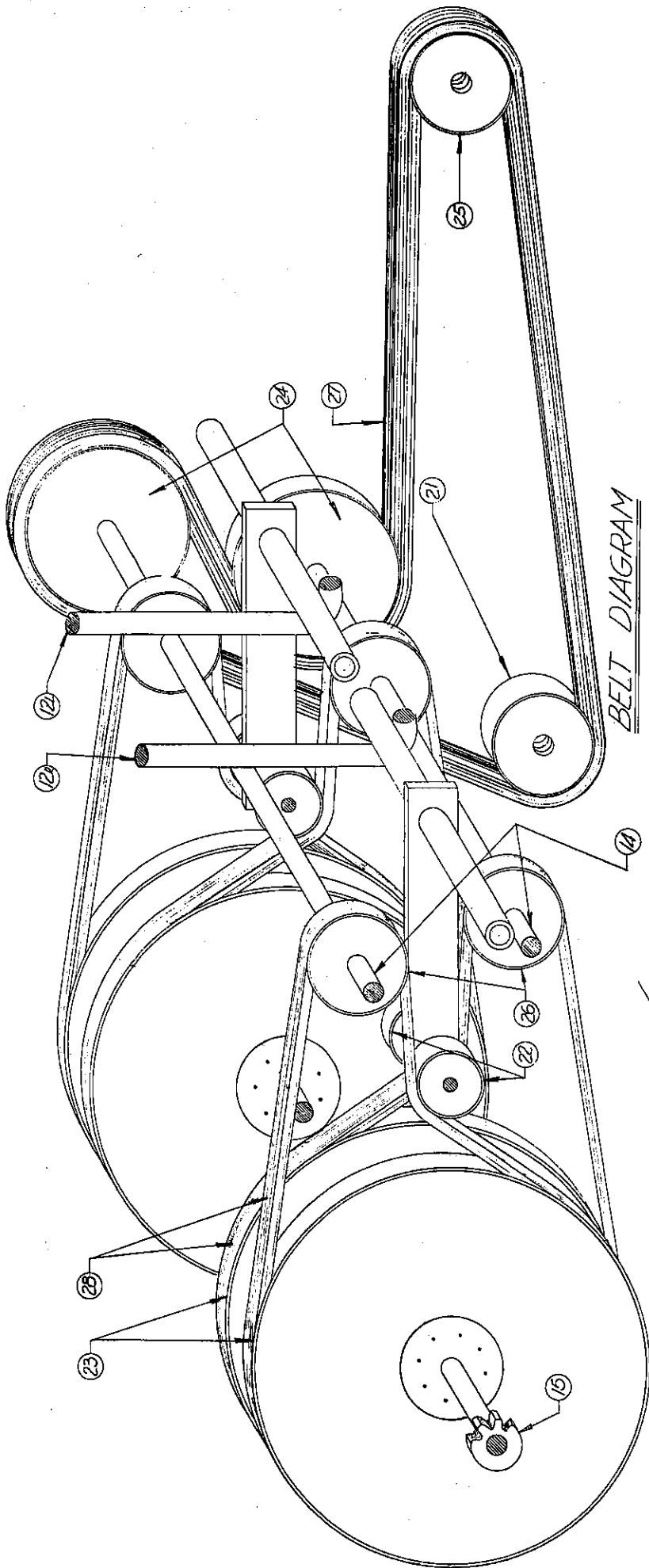
32. Now begin bolting the Track Shoes onto the Drive Chain using the 1/4" carriage bolts, lock washers and nuts provided. NOTE: Shoes must be kept square with an imaginary line running from the Front Wheel to Rear Wheel; always check this alignment as you are putting on the Shoes so that the final Track will run true. The Lawn Shoes must be bolted on with the bent ends always pointing to the inside of the Track. The Dozer Shoes must be bolted on so that the "gripping" edge of the Shoe is always to the outside and the "rolled" edge of the Shoe is to the inside and points to the rear when it's on the ground.

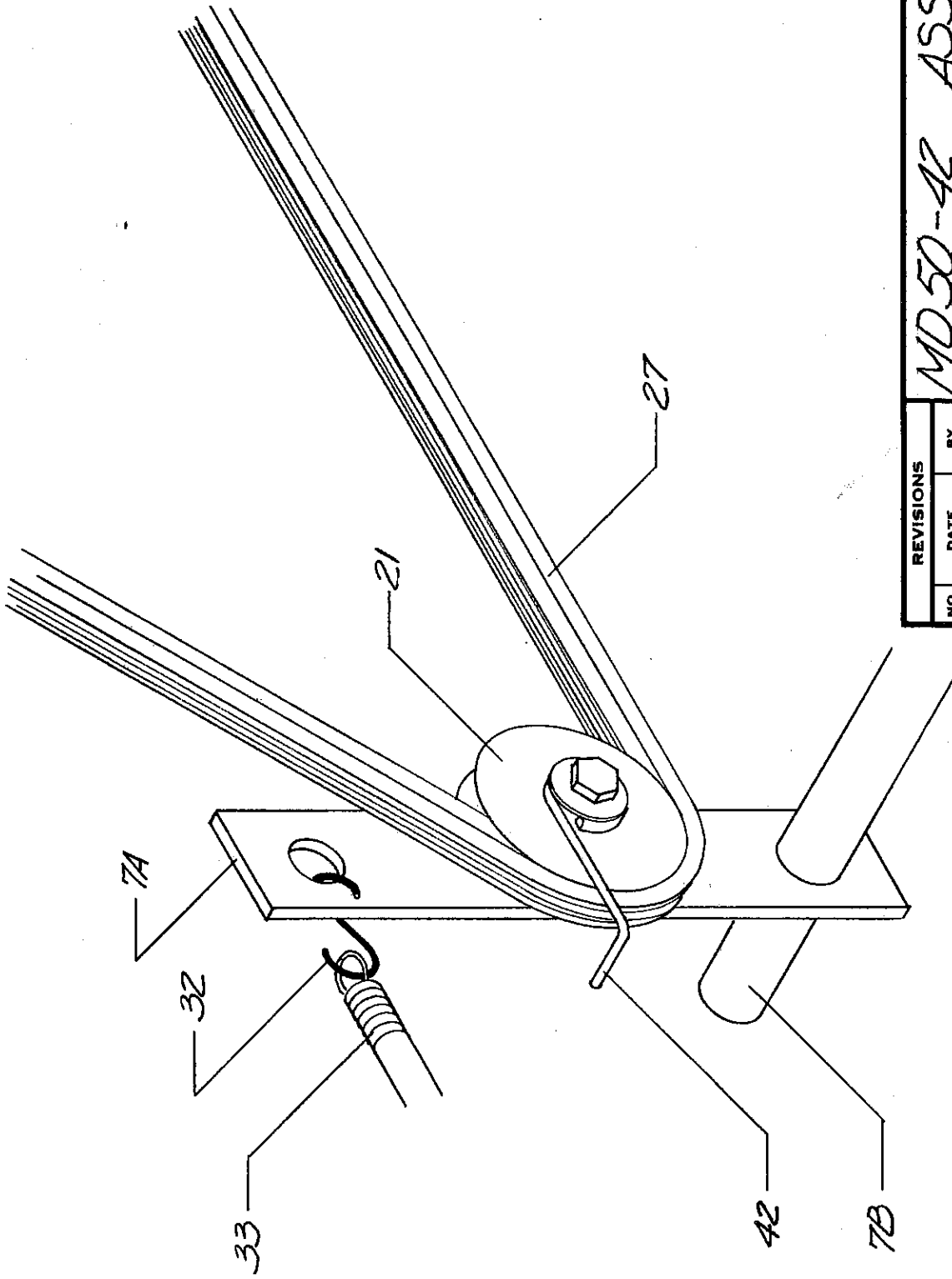
OPERATION:

Before starting Engine check to see that the Safety Clutch Handle (#7) is forward and engaged behind the Clip welded to Body. Next pull up and set Throttle so that Engine has sufficient gas to start - pull all the way up to choke in cold weather. Start Engine and lock Throttle setting by twisting handle 1/4 turn clockwise to hold position. Climb on the Dozer and with your right hand keeping the Control Handles in the center or neutral position, release the Safety Clutch Handle with your left hand to set transmission in motion. Now firmly holding a Control Handle in each hand you can move forward by pushing forward on both Handles; rearward by pulling back on the Handles. Make your turns by simultaneously pushing one Control Handle forward and pulling the other rearward. NOTE: All these actions should be done slowly and carefully for maximum safety and elimination of jerky motions.

NOTE:

For maximum safety both Control Handles must be held by the operator either by a single hand or with both hands while the transmission system is in motion. Therefore, with the transmission in motion the Control Handles should never be left unattended or the natural action of the transmission will cause them to occasionally bounce back and forth. If this condition takes place it can be quickly stopped by disengaging the transmission system with the Safety Clutch Handle and then re-starting.





REVISIONS		DATE	BY	SCALE	MATERIAL
NO.	DATE				
1					
2					
3					
4					
5					

MD50-42 ASSEMBLY
 C. F. STRUCK CORP.
 DRAWN BY: *CSA*
 CHECK'D: *CSA*
 DATE: 5/20/69
 APP'D: *CSA*