



ATD-10141B 2-Ton Foldable Engine Crane Owner's Manual



Features:

- Heavy-duty welded construction with rugged reinforced tubular steel
- (4) boom positions for optimum reach at required capacity
- Metered control release valve for precise lowering control
- Foldable for easy storage
- Meets or exceeds ASME PASE 2019 standards

Specifications:

- Base Length: 65-3/8"
- Base Width-Front: 42-11/16"
- Base Width-Rear: 31-1/2"
- Height: 61-5/8"
- Folded Height: 58-1/2"
- Fixed Wheel Diameter - Front: 3-1/2"
- Caster Diameter - Rear: 3-1/2"
- Caster Diameter - Mid: 3"

Boom Capacity @ Length:

- 1/2 Ton - Boom Length 53-1/2"
- 1 Ton - Boom Length 46-1/2"
- 1-1/2 Ton - Boom Length 40-1/2"
- 2 Ton - Boom Length 33-1/2"

Save these instructions. For your safety, read, understand, and follow the information provided with and on this crane. The owner and operator of this equipment should have an understanding of this engine crane and safe operating procedures before attempting to use. The owner and operator should be aware that use and repair of this product may require special skills and knowledge. Instructions and safety information shall be conveyed in the operator's native language before use of this jack is authorized. If any doubt exists as to the safe and proper use of this product, remove from service immediately. **Inspect before each use.** Do not use if broken, bent, cracked or damaged parts are noted. Any crane that appears damaged in any way, or operates abnormally shall be removed from service immediately. If the engine crane has been or suspected to have been subjected to a shock load (a load dropped suddenly, unexpectedly), immediately discontinue use until product has been checked by an authorized service center. It is recommended that an annual inspection be done by qualified personnel. Labels and Owners Manuals are available from manufacturer.

PRODUCT DESCRIPTION

This ATD Engine Crane is designed to safely lift and lower engines up to rated capacity. Welded steel tube construction, heavy duty chain and safety hook, steel casters and wheels ensure safety, strength and stability.

SPECIFICATIONS

Model	Boom Position	Capacity	Min. Hook Height*	Max. Hook Height*	Boom Length
ATD-10141B	1	2 Ton	16-1/8"	68"	33-1/2"
	2	1-1/2 Ton	10"	72-3/8"	40-1/2"
	3	1 Ton	4-1/4"	76-1/8"	46-1/2"
	4	1/2 Ton	0"	80-1/8"	53-1/2"

*Hook height is measured from the floor to the bottom of the hook

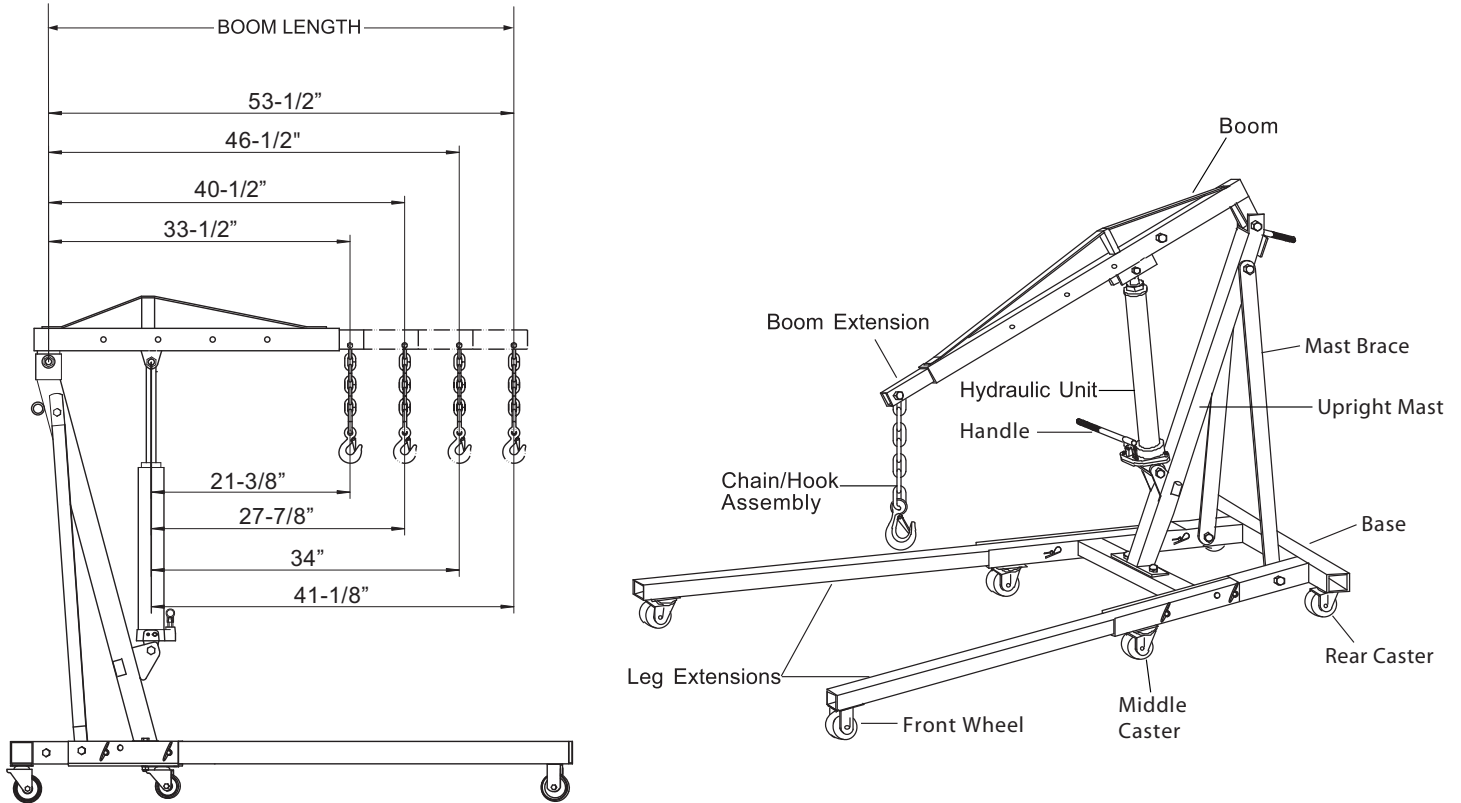
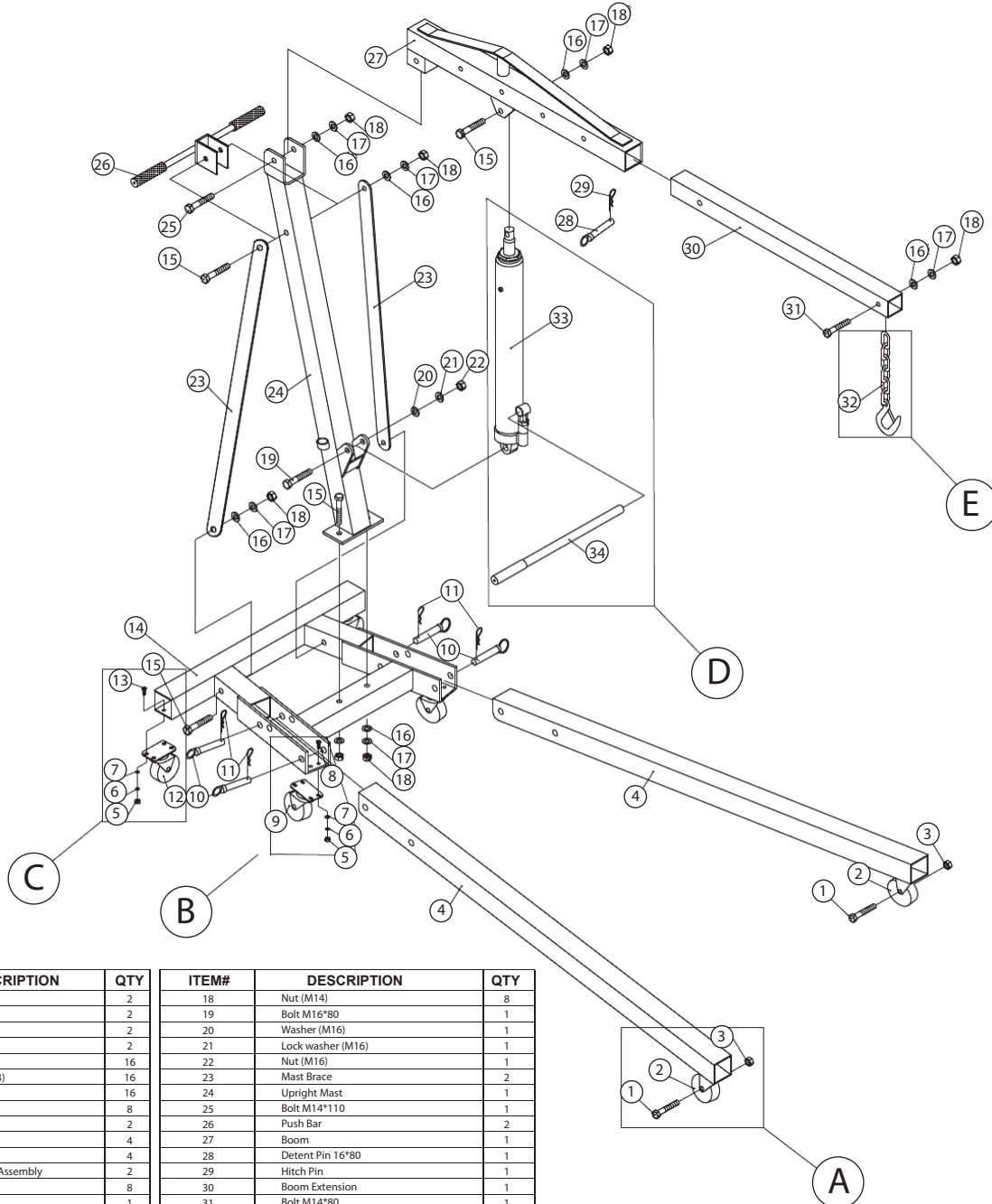


Figure 1 - Engine Crane Nomenclature

ASSEMBLY

Please assemble all the parts according to exploded picture located below.

- Attach the two 3.5" rear caster assemblies (#12) to the rear legs of the base frame (#14) with nut, bolt, and washers (#5, #6, #7 and #13). Tighten casters securely.
- Attach two 3" middle casters (#9) to the front of the base with nut, bolt, and washers (#5, #6, #7 and #8). Tighten casters securely.
- Assemble the upright mast (#24) and mast braces (#23). Assemble the upright mast to the base first. **DO NOT** tighten the bolts until the two mast braces have been installed. Once all parts are in place, tighten the bolts.
- Attach the boom arm (#27) to the upright mast (#24) and insert the boom extension (#30) into the main boom as shown in the diagram.
- Select the desired weight rating displayed on the boom and insert the detent pin (#28) and secure with the hitch pin (#29).
- Attach the hydraulic cylinder (#33) to the upright mast with nut, bolt, and washers (#19, #20, #21 and #22).
- Attach the hydraulic cylinder (#33) to the boom with nut, bolt, and washers (#15, #16, #17 and #18).
- Attach the two 3.5" fixed wheels (part #2) to the leg extensions (#4) and tighten with bolt (#1) and nut (#3).
- Attach the leg extensions to the base frame (#14) using the detent pins supplied (#10). Secure with the hitch pin (#11).
- Install the hook and chain assembly (#32) with nut, bolt, and washers (#16, #17, #18 and #31)



ITEM#	DESCRIPTION	QTY	ITEM#	DESCRIPTION	QTY
1	Bolt M10*6S	2	18	Nut (M14)	8
2	3.5" Fixed wheel	2	19	Bolt M16*80	1
3	Nut (M10)	2	20	Washer (M16)	1
4	Leg Extension	2	21	Lock washer (M16)	1
5	Nut (M8)	16	22	Nut (M16)	1
6	Lock Washer (M8)	16	23	Mast Brace	2
7	Washer (M8)	16	24	Upright Mast	1
8	Bolt M8*20	8	25	Bolt M14*110	1
9	3" Middle Caster	2	26	Push Bar	2
10	Detent Pin	4	27	Boom	1
11	Hitch Pin	4	28	Detent Pin 16*80	1
12	3.5" Rear Caster Assembly	2	29	Hitch Pin	1
13	Bolt M8*18	8	30	Boom Extension	1
14	Base Frame	1	31	Bolt M14*80	1
15	Bolt M14*100	6	32	Hook and Chain Assembly	1
16	Washer (M14)	8	33	Pump	1
17	Lock washer (M14)	8	34	Handle	1

Figure 2 - Assembly Illustration for Model ATD-10141B

BEFORE USE

1. Inspect crane before each use. Do not use if bent, broken or cracked components are noted. Ensure that casters/wheels and boom move freely. Check for and tighten any loose assemblies.
2. Verify that the product and the application are compatible.
3. Before using this product, read the owner's manual completely and familiarize yourself thoroughly with the product and the hazards associated with its improper use.

WARNING

- Study, understand, and follow all instructions provided with and on this device before operating this device.
- Do not exceed rated capacity for each boom position.
- Use the device only on a hard, level surface.
- These engine cranes are intended to be used to lift and lower rated capacity automotive and light truck engines. It is an aid in the removal and installation of automotive and light truck engines.
- Only use chains and slings with a capacity equal to or greater than that of the crane.
- If loaded crane must be moved, make certain that load is stable, is in lowest possible position and is moved over a smooth, hard level surface.
- Avoid shock loads caused by the rapid opening and closing of release valve.
- Shock loads may cause the load to swing, causing the crane to flip violently, bend or break.
- Ensure the boom is fully lowered before checking or adding fluid to the hydraulic unit.
- Never extend boom extension beyond farthest distance of leg extension.
- Do not stand over loaded boom or in its intended line of travel.
- Do not use adapters or accessories that are not provided initially.
- Do not use the device for any purpose other than that for which it is intended.
- Do not modify this device.
- Failure to heed these warnings may result in personal injury and/or property damage.

OPERATION

! SAFETY MESSAGE !

- Lift only on areas of the engine as specified by the vehicle manufacturer.
- Be sure all tools and personnel are clear before lowering load.

1. Load capacity should be coordinated with boom extension and legs extension. Do not extend boom extension beyond the marking that coordinates with the legs extension.
2. Ensure application is compatible with product.
3. Secure engine to chain/sling hook assembly, ensuring load is centered.
4. Follow vehicle service manual recommendations to remove engine. When ready to remove engine, turn release valve clockwise until firm. Pump handle until load is high enough to clear vehicle.
5. Immediately upon removal and when clear of the vehicle, lower the load to the lowest practical position by turning the release valve lever counter clockwise slowly and carefully.

Note: Avoid rolling the loaded engine crane. To help position an engine stand if necessary, move only across smooth, level, seamless surfaces.

Before moving ensure the load:

- a. is lowered to the lowest practical position, but always below the center of gravity.
 - b. is prevented from swinging and inadvertent shifting.
5. Position a suitable engine stand near the removed engine, then immediately transfer the load to appropriate engine support device (engine stand).
 6. Check to ensure stand is secure before working on or around.

WARNING

To avoid crushing and related injuries:
NEVER work on, under or around a load supported only by a crane.
Immediately transfer the load to an appropriately rated engine stand.

MAINTENANCE

Important: Use only a good grade hydraulic jack oil. Avoid mixing different types of fluid and **NEVER** use brake fluid, turbine oil, transmission fluid, motor oil or glycerin. Improper fluid can cause failure of the jack and the potential for sudden and immediate loss of load. We recommend Mobil 13M or equivalent.

Adding oil

1. Carefully remove hydraulic jack from crane.
2. With ram fully lowered and pump piston fully depressed, set jack in its upright, level position. Remove oil filler plug.
3. Fill with oil until just below the rim of the oil filler plug hole. Reinstall the oil filler plug.

Changing oil

For best performance and longest life, replace the complete fluid supply annually.

1. Carefully remove hydraulic jack from crane.
2. With ram fully lowered and pump piston fully depressed, set jack in its upright, level position. Remove oil filler plug.
3. Lay the jack on its side and drain the fluid into a suitable container.
4. Set jack in its level upright position.
5. Fill with oil until just below the rim of the oil filler plug hole. Reinstall the oil filler plug.

Note: Dispose of hydraulic fluid in accordance with local regulations.

Lubrication

A periodic coating of light lubricating oil to pivot points, axles and hinges will help to prevent rust and assure that wheels, casters, and pump assemblies move freely.

Cleaning

Periodically check the pump piston and ram for signs of rust or corrosion. Clean as needed and wipe with an oily cloth.

Note: Never use sandpaper or abrasive material on these surfaces!

Storage

1. When not in use, store the jack with pump piston and ram fully retracted.
2. To transform the crane into storage position:
 - a. Remove lock pin (#28 on figure 2) from boom.
 - b. Lean hydraulic unit back against upright and slowly lower the boom to rest against hydraulic unit.
 - c. Remove lock pin (#10 on figure 2) of left and right legs of the crane.
 - d. Fold legs up on each side of the upright (as shown on figure 3 below).



Figure 3 - Engine Crane Storage Position

TROUBLESHOOTING

Symptom	Possible Causes	Solution
Crane will not lift the load.	1. Release valve not tightly closed.	1. Tighten release valve.
	2. Low oil level.	2. Check and add oil. Follow "Checking and Refilling Oil" instructions listed below.
	3. Defective or worn internal parts.	3. Discontinue use and contact a local repair center.
	4. Load exceeds maximum allowance.	4. Use a higher capacity crane.
Crane will not hold the load.	1. Release valve not tightly closed.	1. Tighten release valve.
	2. Hydraulic unit malfunction.	2. Discontinue use and contact a local repair center.
Crane will not descend to minimum height, or will not remain in lowered position.	1. Air trapped in system.	1. Vent air out of system. Follow "Air Venting Procedures" below.
	2. Oil reservoir overfilled.	2. Check and ensure proper oil level. Follow "Checking and Refilling Oil" instruction listed above.
Crane will not lift to max height.	1. Low oil level.	1. Check and ensure proper oil level. Follow "Adding Oil" instructions above.

Check and Refill Oil

1. With the jack in the fully lowered position remove the jack from the crane and set it upright on a level surface.
2. Remove the oil filler plug.
3. Proper oil level should be just covering inner cylinder as seen from the oil filler plug hole.
4. Do not overfill. Always fill with new, clean hydraulic jack oil as recommended above.
5. Reinstall oil filler plug, then reinstall the jack to the unit.

Air Venting Procedures

1. With the jack installed back onto the crane in the fully lowered position, release valve open, remove oil filler plug.
2. Pump the handle rapidly several times. Reinstall oil filler plug.
3. Turn the handle/release valve clockwise to the closed position.
4. Pump the handle until the lift arm reaches maximum height and continue to pump several times to remove trapped air in the system.
5. Turn the handle/release valve counterclockwise in one full turn and lower lift arm to the lowest position. Carefully and slowly loosen oil filler plug to release pressurized air.
6. Repeat above steps until trapped air is completely vented.

REPLACEMENT PARTS

Not all components of the crane are replacement items, but are illustrated as a convenient reference of location and position in the assembly sequence. When ordering parts, give the model number, serial number and parts description.

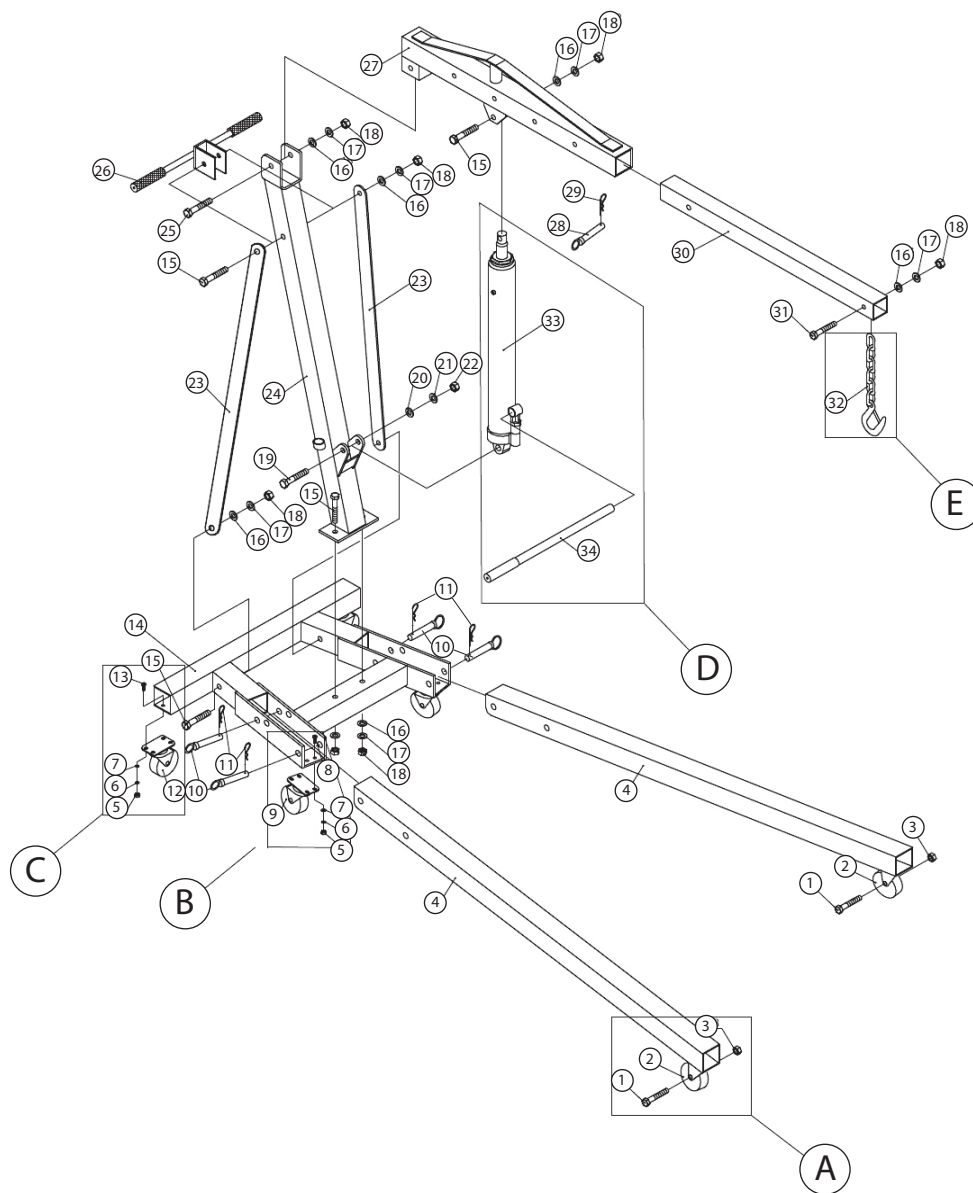


Figure 4 - Replacement Parts Illustration for Model ATD-10141B

ITEM#	ORDERING PART#	DESCRIPTION
A	PRT10141B-01	3-1/2" FRONT WHEEL ASSEMBLY
B	PRT10141B-02	3" MIDDLE CASTER ASSEMBLY
C	PRT10141B-03	3-1/2" REAR CASTER ASSEMBLY
D	ATD-7486B	HYDRAULIC RAM
E	PRT10141B-05	HOOK AND CHAIN ASSEMBLY



ATD[®]

WARRANTY

1 YEAR LIMITED WARRANTY

THIS WARRANTY AND CONFIRMED RECEIPT(S) SHOULD BE RETAINED BY THE CUSTOMER AT ALL TIMES

PURCHASED FROM: _____

DATE PURCHASED: _____

INVOICE/RECEIPT NUMBER: _____

Your ATD-10141B is warranted for a period of 12 months from the original purchase date.

For a period of one (1) year from your purchase date, ATD Tools Inc. will repair or replace (at its option) without charge, your ATD product if it was purchased new and the product has failed due to a defect in material or workmanship which you experienced during normal use of the product. This limited warranty is your exclusive remedy.

To access the benefits of this warranty, call 636-327-9050 for warranty information. You may be advised to return the product or a portion of the product under warranty, freight prepaid, to the service department for warranty determination.

If this ATD product is altered, abused, misused, modified, or undergoes service by an unauthorized technician, your warranty will be void. We are not responsible for damage to ornamental designs you place on this ATD product and such ornamentation should not cover any warnings or instructions or they may void the warranty. This warranty does not cover scratches, superficial dents, and other abrasions to the paint finish that occur under normal use. It also does not cover normal wear items such as but not limited to brushes, batteries, drill bits, drill chucks, pads or blades.

Subject to the law in your state:

- (1) Your sole and exclusive remedy is repair or replacement of the defective product as described above.
- (2) ATD is not liable for any incidental damages, including but not limited to, lost profits and unforeseeable consequences.
- (3) The repair and replacement of this product under the express limited warranty described above is your exclusive remedy and is provided in lieu of all other warranties, express or implied. All other warranties, including implied warranties and warranties of merchantability or fitness for a particular purpose are disclaimed and, if disclaimer is prohibited, these warranties are limited to one year from your date of purchase of this product.

Some states' laws do not allow limited durations on certain implied warranties and some states' laws do not allow limitations on incidental or consequential damages. You should consult the law in your state to determine how your rights may vary.

[Affix receipt or invoice here for safe keeping]