

CRAWLER®

Patent #6,533,067 ; 7,004,284 and other patents pending

INSTALLATION & OPERATING **MANUAL**

READ THE COMPLETE INSTALLATION
INSTRUCTIONS BEFORE BEGINNING



CRAWLER PRODUCTS

[www. Crawlerproducts.com](http://www.Crawlerproducts.com)

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(Revised 5)

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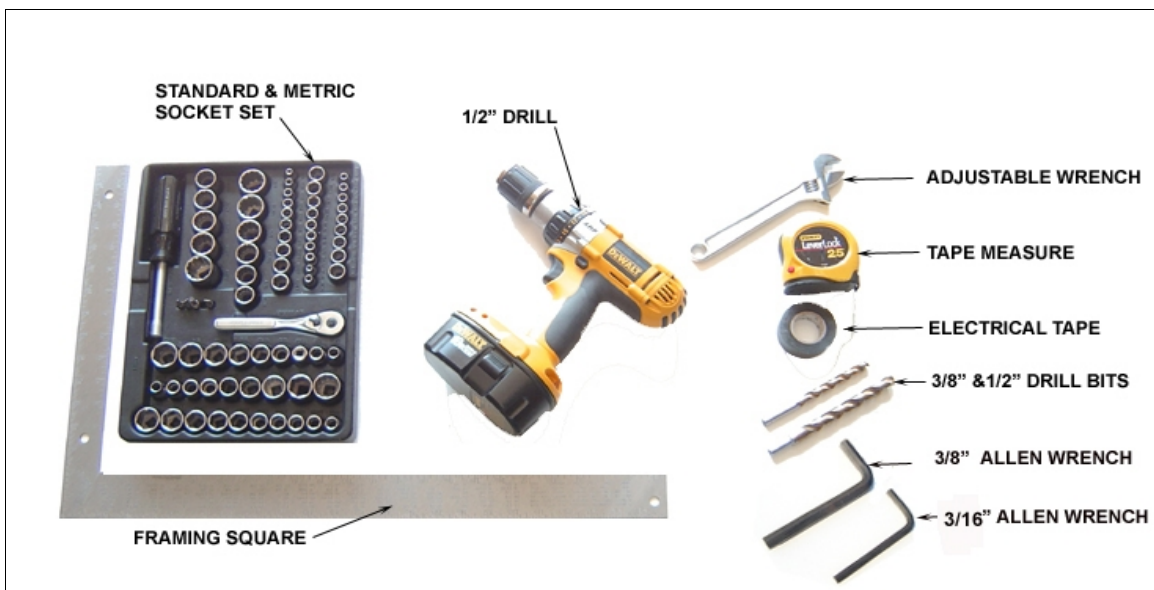
SAVE THESE INSTRUCTIONS.
Refer to them often
and use them to instruct others.



Tools needed for installation of the CRAWLER

(Crawler drive unit & caster locking bar)

- 1. Framing square**
- 2. Tape measure**
- 3. Standard /metric deep well socket set**
- 4. Adjustable wrench**
- 5. 3/8" Allen wrench (included)**
- 6. 3/16 Allen wrench**
- 7. Electrical tape**
- 8. 1/2" DRILL**
- 9. 3/8" & 1/2" DRILL BITS**



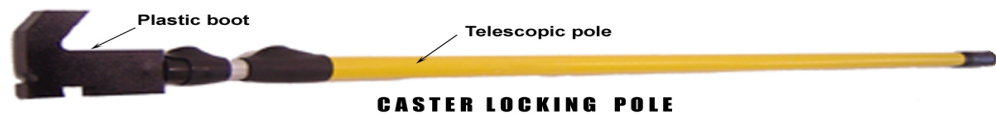
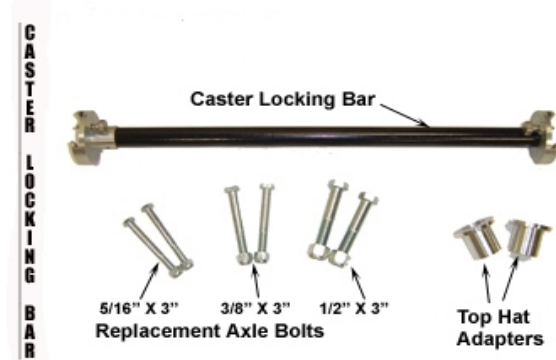
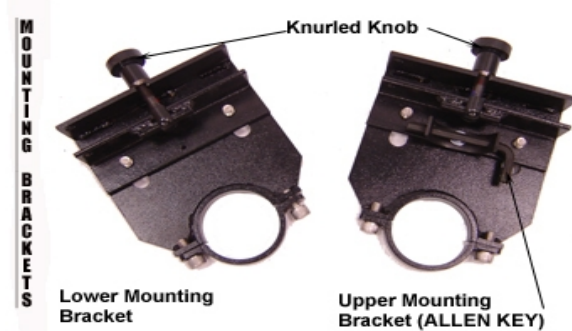
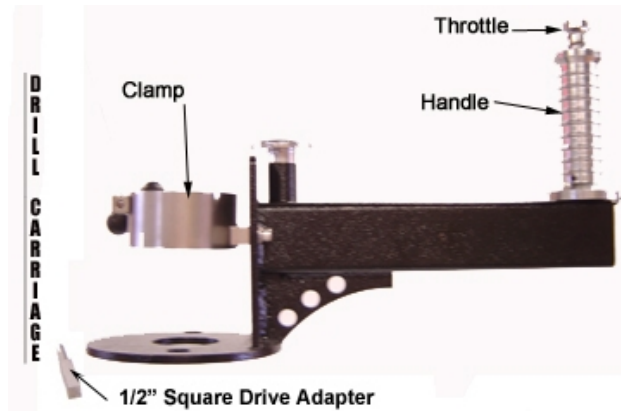
Drills compatible with the **Crawler®** drive unit

* DEWALT	DC980 – DC983 – DC984 – DC987 – DC988 - DC900KL
* BOSCH	13614 – 33614 – 13618 - 13624
* Milwaukee	0614-20 – 0617-20 – 0624-20 – 0627-20 – 0724-20
* HILTI	SF180-A - SF151-A
* HITACHI®	DS14DMR - DS18DMR
* Panasonic	EY6450
* Makita	BDDF451 - BHP451

Visit www.crawlerproducts.com for a list of the most current compatible drill models.

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Identifying Parts



GENERAL SAFETY RULES



Don't operate the Crawler above a safe platform height. Use the 2:1 height-to-base width ratio outlined in the “MAX OPERATING HEIGHT” section of the operating manual.

Don't operate the Crawler with a drill speed other than #1 (low) selected. The Crawler has been designed to operate at a safe and moderate speed. Operating the drill at any speed other than #1 (low) will allow the scaffold to travel at unsafe speeds, possibly causing it to overturn and result in serious injury to the operator. Operating the drill at any speed other than #1 (low) will void all warranties and is not compliant with O.S.H.A regulations.

Don't operate the Crawler without the caster locking bar secured properly in place.

Don't operate the Crawler without first making certain you are able to lock and unlock the casters, using the telescopic “Caster Locking Pole” supplied. O.S.H.A. Regulations require all casters be locked. To lock the casters use the CRAWLER “Caster Locking Pole” provided. Lock all casters before climbing on and off the scaffold, as soon as the scaffold comes to a complete stop, and before any work begins.

Don't operate the crawler on a grade steeper than 3 degrees.

Don't drive the scaffold through door openings or low clearance areas with the Crawler attached. Always dismount the scaffold, remove the drill from the carriage and push the scaffold and Crawler under low clearance areas.

Don't operate the Crawler without having the telescopic height selector pin and the safety ring pin securely in place as outlined in the “TELESCOPIC HEIGHT ADJUSTMENT” section of the operating manual.

GENERAL SAFETY RULES CONT.



Don't drive the Crawler at full speed in the reverse mode. This may cause the scaffold to flip over if stopped abruptly. **Read and fully understand all safety material** in the operating manual and warning labels posted on the Crawler unit before operating the Crawler.

Don't allow anyone to operate the crawler without first reading and fully understanding the complete installation and operating manual.

Perform routine inspections on the Crawler's components as outlined in the "SAFETY CHECK BEFORE OPERATING" section of the operating manual.

When raising the telescopic section (the drill carriage and upper tube) of the Crawler make certain to have a firm hold on the upper tube and drill carriage before pulling out the selector pin. After the pin is pulled outward the tubes become disengaged and the upper section will fall, possibly causing serious injury to the operator.

Don't wear loose clothing or jewelry while operating the Crawler. Loose clothing and jewelry can become entangled with the scaffold or Crawler possibly resulting in serious injury. **Follow all O.S.H.A. guidelines concerning movable scaffolds found in O.S.H.A. Publication 3150 (1926.452.(w)).**


Don't operate the Crawler without first surveying the site for debris and obstacles which may scotch the casters on the scaffold, possibly causing it to overturn.

Don't operate the Crawler while under the influence of drugs or alcohol.

Don't operate the Crawler if you are tired or have been deprived of sleep.

Safety Labels:

NOTE: Read and fully understand all Safety Labels shown below and displayed on the unit, before operating.



WARNING

Before using this scaffold moving device, read, understand and follow the warnings, assembly and safety instructions outlined in the Installation and Operating Manual supplied. Failure to use this device properly may lead to potential injury or property damage. Review safety rules with all workers before using this scaffold moving device.

Check state, local or jobsite regulations for variance from federal OSHA scaffold standards.

Follow all rules and regulations as outlined in OSHA publication 3150 (1926.452 (w))

O.S.H.A. Regulations require all casters be locked. To lock the casters use the CRAWLER "Caster Locking Pole" provided. Lock all casters before climbing on and off the scaffold, as soon as the scaffold comes to a complete stop, and before any work begins.

Use only the specific make and model drills recommended by the manufacture of the "CRAWLER", as outlined in the installation manual. The use of any drill other than those listed may cause injury.

All approved drills must be installed into the drill carriage with the low or #1 drill speed selected. Any higher speed selected will allow the scaffold to travel in excess of 1 ft. per second possibly causing injury and is not OSHA compliant.



DANGER

This metal equipment is conductive.

Do not use near electrical circuits.

Serious injury or death could result.

MEETS


O.S.H.A.

REQUIREMENTS



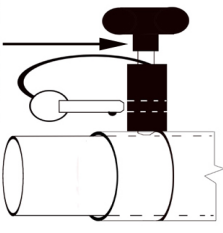
WARNING

O.S.H.A. Regulations require all casters be locked. To lock the casters use the CRAWLER "Caster Locking Pole" provided. Lock all casters before climbing on and off the scaffold, as soon as the scaffold comes to a complete stop and before any work begins.



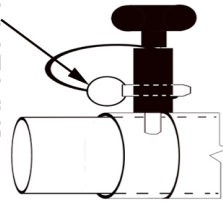
WARNING

Before pulling the height selector pin, make certain to have a firm hold on the upper tube and drill carriage assembly. Always insert the safety pin or a padlock through the height selector pin after the proper height is achieved.



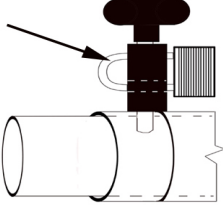
PULL PIN

UNLOCK



SAFETY PIN

LOCK



PADLOCK

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Safety Labels (continued):

NOTE: Read and fully understand all Safety Labels shown below and displayed on the unit, before operating.

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Lock all casters using this telescopic “Caster Locking Pole” before climbing on or off the scaffold, as soon as the scaffold comes to a complete stop, and before any work begins.

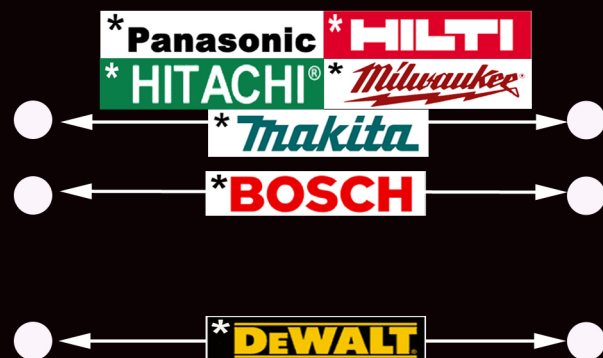
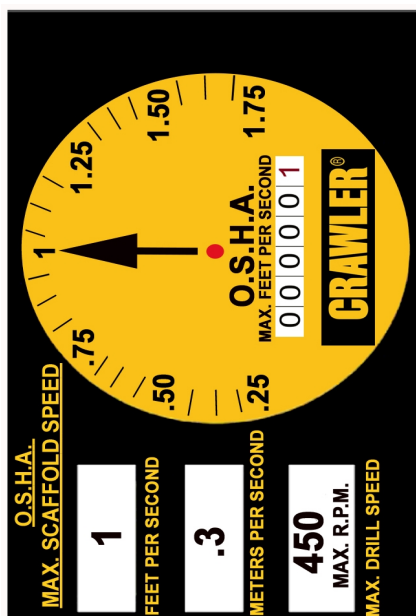
WARNING

All drills must be installed into the drill carriage with the low or #1 drill speed selected. Any higher speed selected, will allow the scaffold to travel in excess of 1 ft. per second, possibly causing injury and is not OSHA compliant.

WARNING

O.S.H.A. Regulations require all casters be locked. To lock the casters use the CRAWLER “Caster Locking Pole” provided. Lock all casters before climbing on and off the scaffold as soon as the scaffold comes to a complete stop and before any work begins.

O.S.H.A. Regulations prohibit this scaffold moving device to travel at a speed in excess of 1 ft. per second. Any modifications to this device allowing the speed to exceed 1 ft. per second are prohibited and not compliant with O.S.H.A. Regulations.



* Registered trademarks of identified companies

Mount the clamp using the pre drilled holes specific to your brand of drill.

Installation of the Caster Locking Bar

NOTE: Install the caster locking bar prior to installing the Crawler drive unit.

STEP 1)

Rotate the two casters on one end of the scaffold so both wheels are positioned with the locking mechanisms to the outside of the scaffold, as shown in fig. #1A.

NOTE: It may be helpful to elevate the scaffold's end frame and suspend the casters by placing an object such as a 5 gal. bucket between the floor and the first rung of the scaffold, as shown in fig. #1B,

STEP 2)

Remove the nuts and axle bolts from both casters. Locate the correct diameter replacement axle bolts. There are three sizes ($5/16"$, $3/8"$, and $1/2"$) supplied with the Crawler. Install the new axle bolts so the threads are facing each other and pointing to the inside of the scaffold, as shown in fig. #2A.

NOTE: Some caster's axles are riveted and must be drilled out and replaced with the axle bolts that are supplied.

NOTE: Make certain to re-install the original washers, spacers, and bushings (as found in the caster assembly, prior to removing the original axle bolts).

NOTE: If the axle bolts supplied are not the proper diameter or length replace the original axle bolts with grade 5 hex bolts and lock nuts. The replacement bolts should match the diameter of the original bolts removed and project $7/8"$ to $1\ 1/4"$ beyond the caster, as shown in 2B.

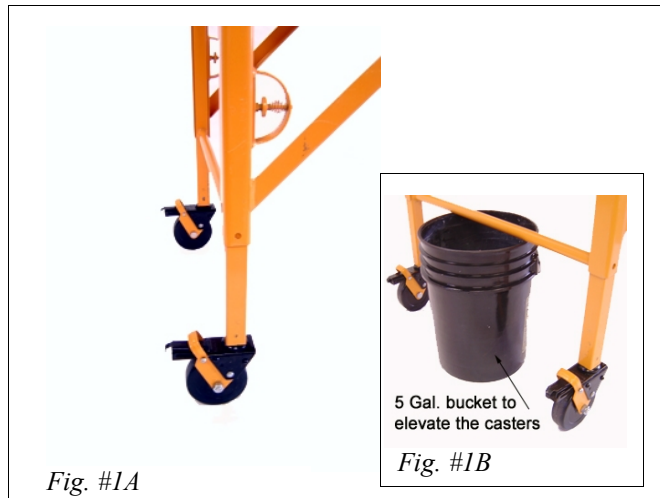


Fig. #1A

Fig. #1B

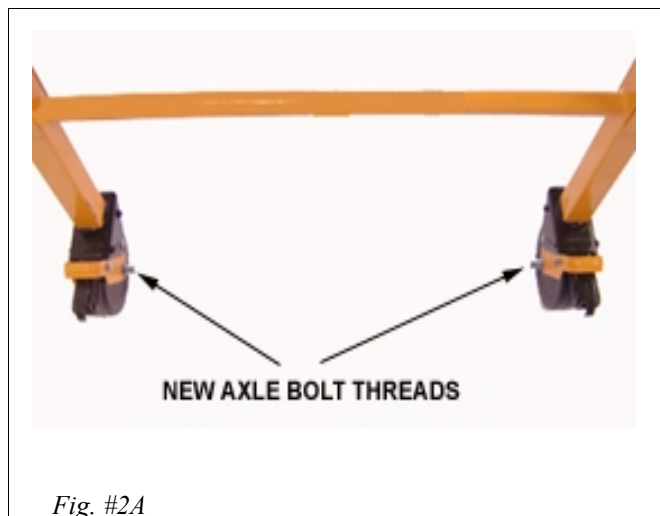


Fig. #2A

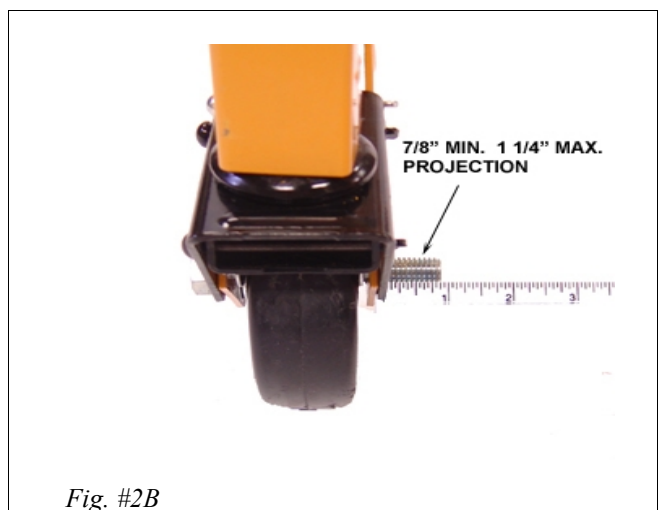


Fig. #2B

Installation of the Caster Locking Bar (continued)

STEP 3)

With the axle nuts removed check to see if the top-hat shaped caster adapters will fit over the new axle bolts. The adapters are pre-drilled for use with 5/16" axle bolts. If the axle bolts on your casters are larger it will be necessary to enlarge the hole using a $\frac{3}{8}$ " or $\frac{1}{2}$ " drill bit, depending on the diameter of the axle bolt. Some casters may have a raised flap or contour, making it difficult for the top-hat shaped adapter to seat properly. Make certain to rotate the adapter, aligning the notch in the adapter with the raised flap or contoured shape located on the caster, as shown in fig.#3.

NOTE: Make certain the axle bolt does not project beyond the rim of the top hat adapter.

NOTCH

Fig. #3

STEP 4)

Thread the new lock nuts (supplied with the Crawler) over the end of the new axle bolts. Tighten the lock nuts using a deep well socket and socket wrench, as shown in fig. #4..

NOTE: When installing the axle nuts use the appropriate size nut for the axle bolt used. Do not over-tighten the axle nuts which will prevent the caster wheels from turning freely.

NOTE: The "top-hat" adapters can permanently remain on the casters and will not affect the performance of the scaffold, even when the caster locking bar is not installed.

Fig. #4

WARNING: DO NOT "OVER TIGHTEN"
Make sure the casters turn freely.



Installation of the Caster Locking Bar (continued)

STEP 5)

Install the caster locking bar by pulling outward on the spring pins and slipping the female adapters (found on both ends of the caster locking bar) over the rim of the top-hat shaped adapters, as shown in fig. #5A. Confirm that spring pins are fully inserted, securing the caster locking bar to both casters, as shown in fig. #5B. With the spring pins fully inserted in both top-hat adapters the bar is locked, secured, and will not disengage.

NOTE: After completing Step 5, the front casters are now locked parallel with the scaffold and will allow the Crawler drive unit, when installed, to steer the scaffold in a manner similar to the operation of an outboard motor on a fishing boat.

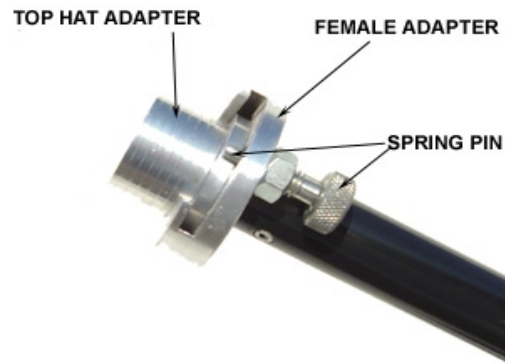


Fig. #5A



Fig. #5B

Installation of the Crawler

STEP 6)

Install the lower mounting bracket, centered on the bottom rung of the scaffold's end frame. (located at the opposite end of the caster locking bar, as previously installed in steps 1-5). Use a framing square to align the bracket at a 90° angle to the scaffold, as shown in fig. #6A. Firmly tighten the knurled knob attached to the lower mounting bracket by hand, then again using the 3/8" Allen wrench supplied, as shown in fig. #6B, so the mounting bracket will remain perpendicular (previously aligned by the framing square).

NOTE: The lower mounting bracket has no Allen wrench or Allen wrench holder attached.

NOTE: If the top of the bottom rung on your scaffold is less than 11½" above the floor surface, move the bottom mounting bracket to the second rung.



Fig. #6A

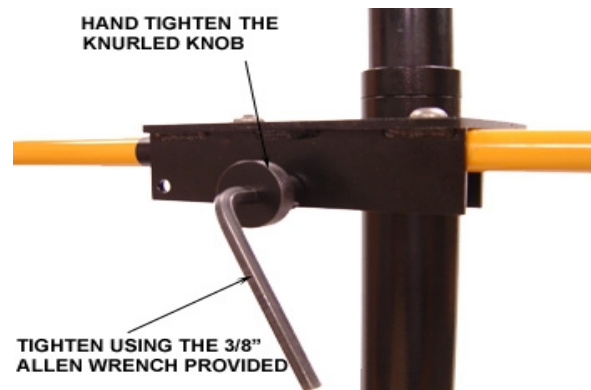


Fig. 6B

The table below shows the min./max. dimensions needed from the finished floor to the top of the mounting bracket:

Mounting Bracket	Minimum	Maximum
Top	52"	59¾"
Bottom	11¾"	24"

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Installation of the Crawler (continued)

STEP 7)

Install the upper mounting bracket, centered on the highest possible rung of the scaffold's end frame at or slightly below 59½" from the floor. Use a framing square to align the bracket at a 90 ° angle to the scaffold, as shown in fig. #7.

NOTE: The upper mounting bracket has an Allen wrench and holder attached to the underside.

NOTE: Install the upper bracket on the highest rung possible at or below 59½" above the floor surface.

Firmly tighten the knurled knob attached to the upper mounting bracket by hand, then again using the 3/8" Allen wrench supplied, as shown in fig. #6B, so the mounting bracket will remain perpendicular (previously aligned by the framing square).



Fig. #7

Step 8)

Remove the U shaped clamps from the mounting brackets previously installed in step #7. Verify that both brackets are perfectly centered between the scaffold's vertical uprights, as shown in fig. #8. If not, adjust the brackets to the center following the steps shown in figs. #6 and #7. Once the brackets are perfectly centered, install a band of electrical tape on either side of both brackets, as shown in fig. #8. These marks will help align the mounting brackets for future setups.

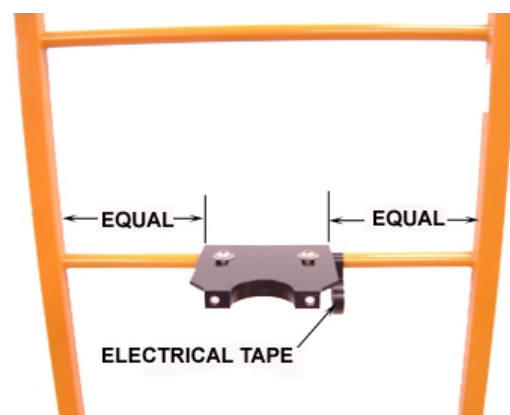


Fig. #8

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Installation of the Crawler (continued)

Step 9)

Install the Crawler drive unit to the mounting brackets previously installed on the scaffold. The vertical **CRAWLER** logo should be facing outward and centered left to right, as shown in fig. #9A.

NOTE: The brackets only attach to the outer tube. Allow 2½" of clearance between the top of the drive unit and the bottom of the outer tube, as shown in fig. #9B.

NOTE: If the top of the bottom rung on the scaffold is less than 11½" above the floor surface, you must move the bottom mounting bracket to the second rung from the bottom to achieve proper clearance between the drive unit and the outer tube. If so, follow the steps in figs. #6 relocating the lower mounting bracket to the second rung from the bottom..



Fig. #9A

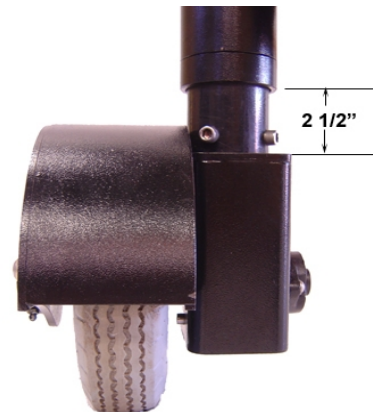


Fig. #9B

Step 10)

Secure the Crawler drive unit to the scaffold by installing the U-shaped clamps over the outer tube and bolting the clamps to the mounting brackets using the four ½" X 1" stainless steel cap screws previously removed. Tighten the clamps to the mounting brackets using the ⅜" Allen wrench supplied, as shown in fig. #10. These brackets are now secure on the Crawler and only need to be moved if the Crawler is used on a different brand and/or model of scaffolding.



Fig. #10

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Installation of the Crawler (continued)

Step 11)

Rotate the Crawler so the T-handle height-selector pin is facing the scaffold's end frame, as shown in fig. #11A. Remove the safety ring pin from the height selector pin assembly. Pull outward on the T-handle height-selector pin while pushing the top flange of the Crawler upward until the top flange is even with, or above the top rung of the scaffold, as shown in fig. #11B. Confirm that the height selector pin is locked and fully inserted in one of the holes found in the upper tube. Reinstall the safety ring pin through the height selector pin assembly, preventing the height-selector pin from becoming disengaged.

NOTE: Firmly hold the upper tube and flange while adjusting the height.



Fig. #11A

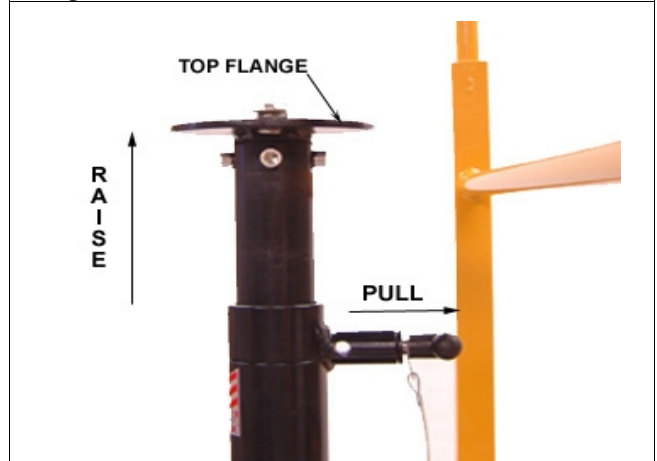


Fig. #11B

Step 12)

Install the drill carriage to the top flange of the Crawler, as shown in fig. #12, using the bolts and Allen wrench supplied (two $\frac{5}{8}$ " X $\frac{1}{2}$ " button-head stainless steel bolts).

NOTE: The holes located in the top flange are intentionally offset, preventing the drill carriage from being installed improperly by 180°.

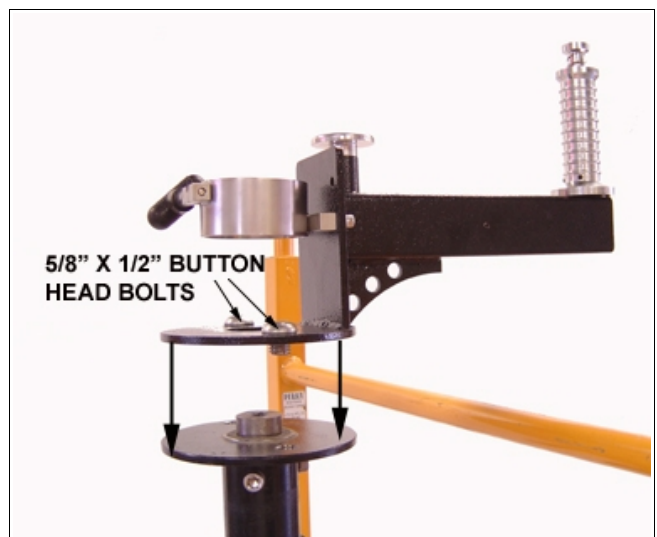


Fig. #12

Installation of the Crawler (continued)

Step 13)

Using the charts below, locate the brand and model # of drill you plan to use and note the bushing number in the column to the right. Locate the bushing with the corresponding number, from the bushings supplied. The bushings are clearly marked with an identifying number located on the side of the bushing, as shown in fig.#13A.

BUSHING

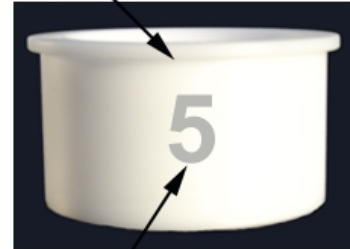
#1	#2	#3	#4	#5
* BOSCH	* Milwaukee	* DEWALT	* HITACHI	* HILTI
#13614	#0614-20	DC980	DS14DMR	SF180-A
#13618	#0617-20	DC983	DS18DMR	
#33618	#0624-20	DC984		
#13624	#0627-20	DC987		
	#0724-20	DC988		
		DC900KL		
			* Makita	* Panasonic
			BDDF451	EY6450
			BHP451	
			* HILTI	
			SF151-A	

* Registered trademarks of identified companies

Insert the bushing into the clamp, located on the drill carriage, making certain the groove in the bushing aligns properly with the pin found on the rear of the clamp, as shown in fig #13B.

NOTE: Make certain the continuous split in the bushing, found 180° from the groove, aligns with the split in the front of the clamp.

ADAPTER BUSHING



IDENTIFYING NUMBER

Fig. #13A

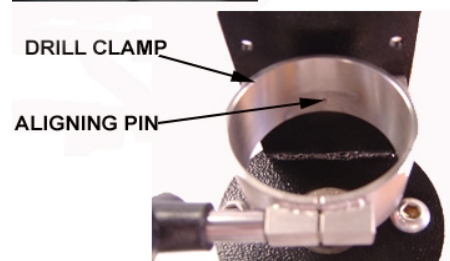
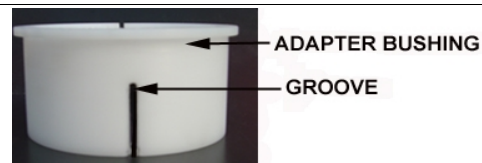
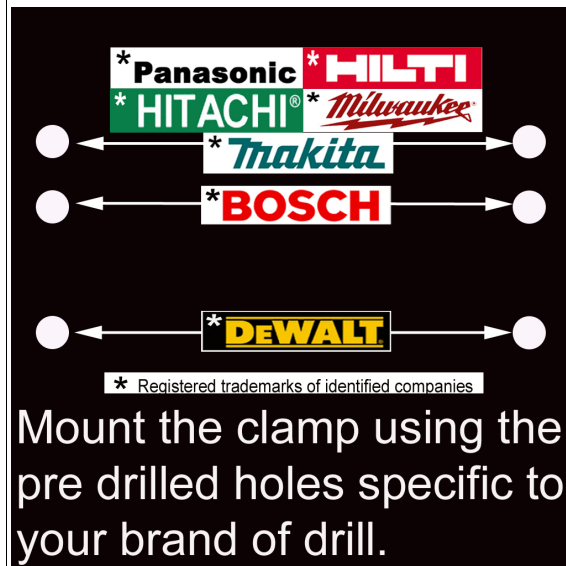


Fig. #13B

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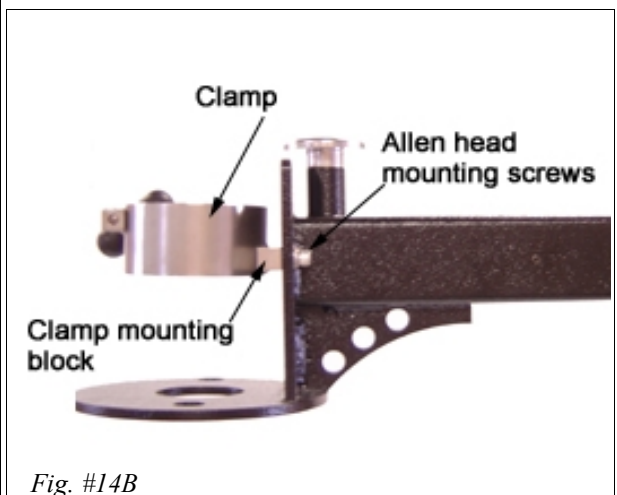
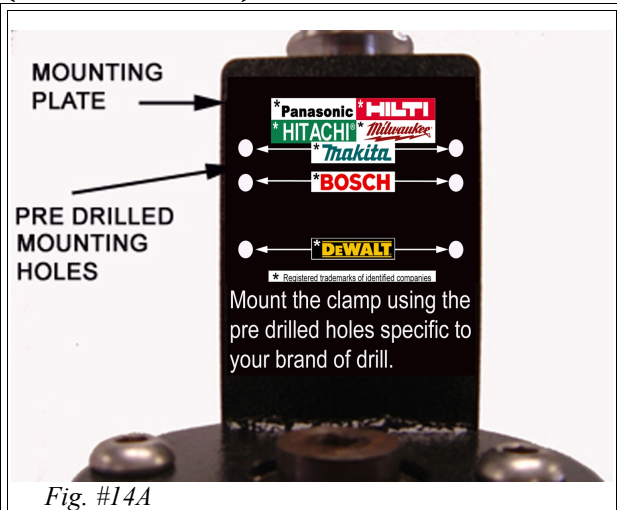
Installation of the Crawler (continued)

Step14) Make certain the clamp is secured to the mounting plate in the proper location, depending on the brand of drill being used, as shown in fig.#14A and the label below.



It may be necessary to relocate the clamp to accommodate your brand of drill. The clamp may be relocated by removing the two Allen head mounting screws using a 3/16" Allen wrench. Move the clamp vertically to it's new location and align the holes in the clamp with the proper pre-drilled holes found in the mounting plate. Reinstall the mounting screw previously removed.

NOTE: When reinstalling the clamp to the mounting plate, make certain the clamp's mounting block is positioned at the bottom of the clamp, as shown in fig. # 14B.



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Installation of the Crawler (continued)

Step 15)

Insert the hex end of the square drive adapter (supplied) completely into the chuck of the drill being used, as shown in fig. #15



Fig. #15

NOTE: Make certain the drive adapter is fully inserted into the drill's chuck, leaving the 1/2" square end of the adapter projecting approx. 2 1/4", as shown in fig. #15.

Step 16)

Move the speed selector switch to the low or #1 speed position on the drill and make certain the torque setting is adjusted to the drill mode, as shown in fig. #16.

WARNING: All drills must be installed into the drill carriage with the low or #1 drill speed selected. Any higher speed selected will allow the scaffold to travel in excess of 1 ft. per second, possibly causing injury and is not OSHA compliant.

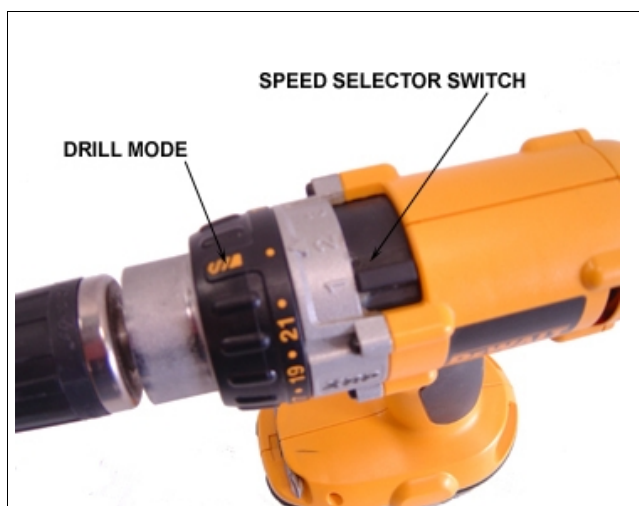


Fig. #16

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Installation of the Crawler (continued)

Step 17)

Remove the battery from the drill and install the drill, with the ½" square drive adapter, into the clamp located on the drill carriage, as shown in fig.#17A. Align and insert the ½" drive adapter into the female port located in the center of the bottom flange. Make certain the plastic adapter bushing and drill are both fully inserted into the clamp and the rim of the adapter bushing fits tightly to the clamp and the drill fits tightly to the adapter bushing, as shown in fig.#17B.

Note: With the battery removed from the drill activate the throttle located on the drill carriage, making certain the linkage operates smoothly and fully engages and disengages the trigger located on the drill.



Fig. #17A

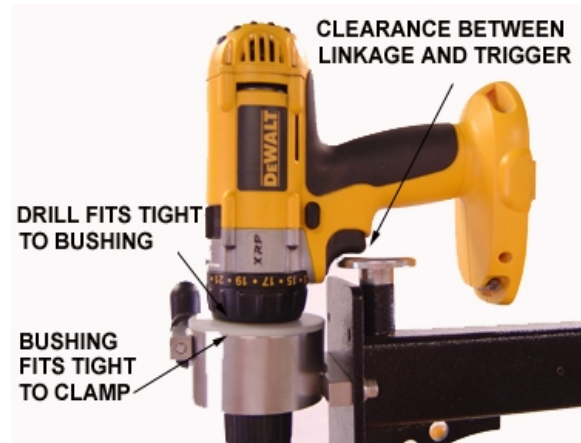


Fig. #17B

Step 18)

Tighten the knob on the clamp clockwise and reinstall the battery, as shown in fig. #18.

WARNING: With the drill locked in the carriage and the battery installed in the drill, the Crawler is now under power. Read the operating manual completely before operating the Crawler.

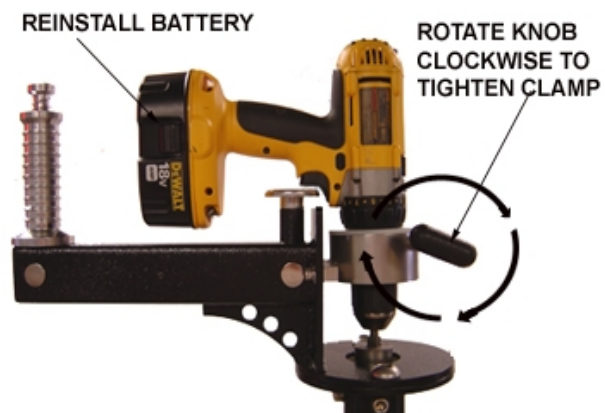


Fig. #18

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Operating Manual for The Crawler:

NORMAL FORWARD

OPERATION

The Crawler is designed to be operated similarly to an outboard motor found on a small fishing boat. The operator stands on the scaffold platform, normally facing forward, while controlling the speed and direction with one hand, as shown in fig #1. When the operator pushes the handle to the right the scaffold will travel to the left and vice versa. The desired speed of the Crawler is determined by the amount of pressure applied to the thumb throttle located above the steering handle. Remember to accelerate and decelerate slowly. Sudden rapid starts or stops can throw the operator off balance, causing injury.

NOTE: The Crawler's extreme gear reduction greatly increases the torque of the cordless drill.

OPERATING THE CRAWLER IN REVERSE

The Crawler may be operated in reverse by simply reversing the drill motor. Operating the Crawler in the reverse mode is only recommended if it is necessary for maneuvering around obstacles or aligning the scaffold with the work area. When driving the crawler in the reverse mode the operator should turn 180° from the normal operating position, facing the Crawler drive unit, as shown in fig. #2.

NOTE: For optimum safety and performance the Crawler is to be operated mainly, as shown in Fig. #1.



Fig. #1



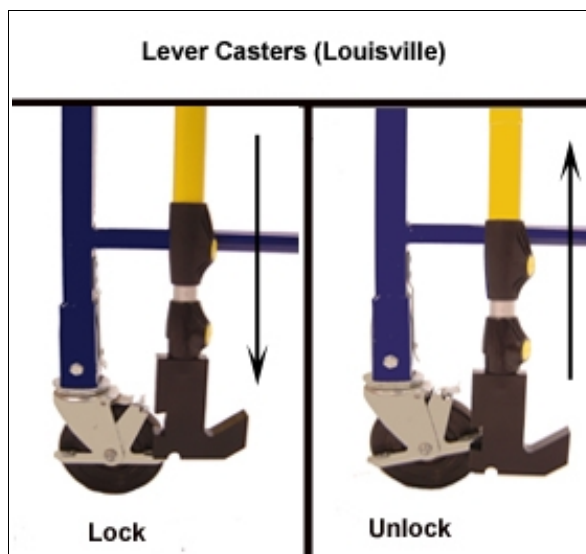
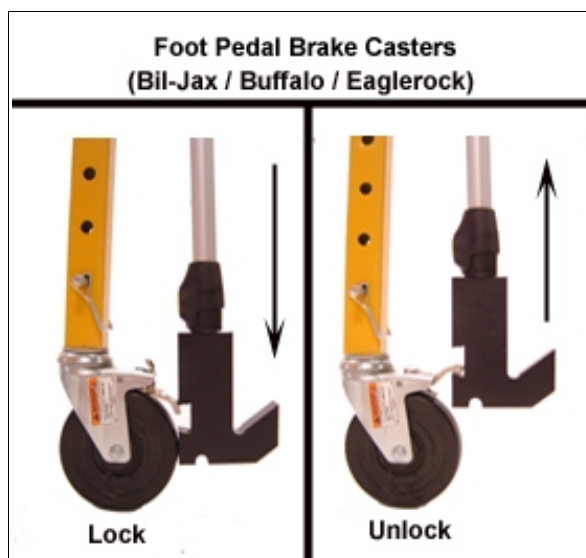
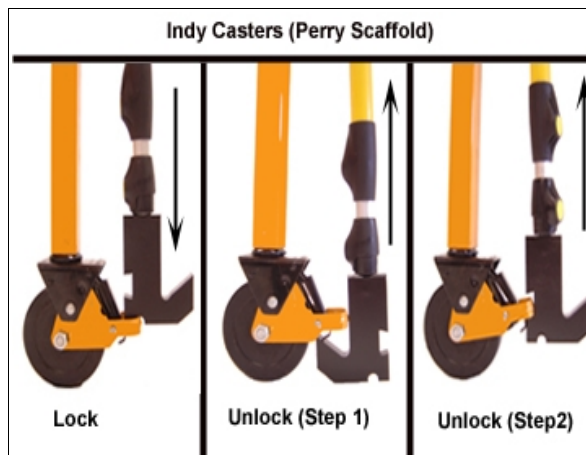
Fig. #2

Operating Manual for The Crawler (continued)

CASTER LOCKING POLE

The Crawler has been shipped with a telescopic pole with a plastic boot attached to one end. This pole is to be used to engage and disengage the caster locks found on your scaffold. The “boot shaped” plastic tool has various profiles and notches, used to grab the brake levers found on different makes and models of scaffolding, allowing the operator to easily engage and disengage the caster locks from the platform above. The illustrations to the right display the proper position and use of the tool on three popular styles of casters.

NOTE: If the casters on your scaffold differ from those shown to the right, make certain you are able to easily engage and disengage the caster locks, with the tool provided before using



Operating Manual for The Crawler (continued)

CASTER LOCKING POLE STORAGE

The caster locking pole comes with a metal hook attached to the end of the pole, for easy storage. While the caster locking pole is not in use it should be stored by hanging it from the scaffold frame or guard rail, as shown in fig. #3

ALLEN WRENCH STORAGE

The Crawler is shipped with a 3/8" Allen wrench for the installation and future adjustments. A plastic storage clip has been provided and attached to the underside of the upper mounting bracket, as shown in fig. #4.

NOTE: If the Allen wrench storage clip is located on the underside of the lower mounting bracket, it may be relocated to the upper bracket by removing the center screw and attaching the clip to the pre-drilled hole, found on the underside of the upper mounting bracket.

CASTER LOCKING BAR

The caster locking bar is essential for the safe operation of the Crawler drive unit and should be checked regularly to be sure the locking pins are fully engaged above the rim of the top-hat adapters, as shown in fig.# 5. If the bar becomes disengaged, the operator will no longer be able to steer the scaffold properly, possibly causing injury to operator or others.

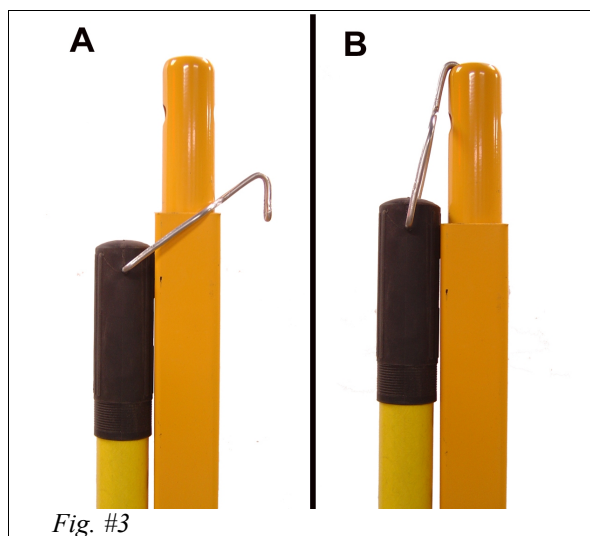


Fig. #3

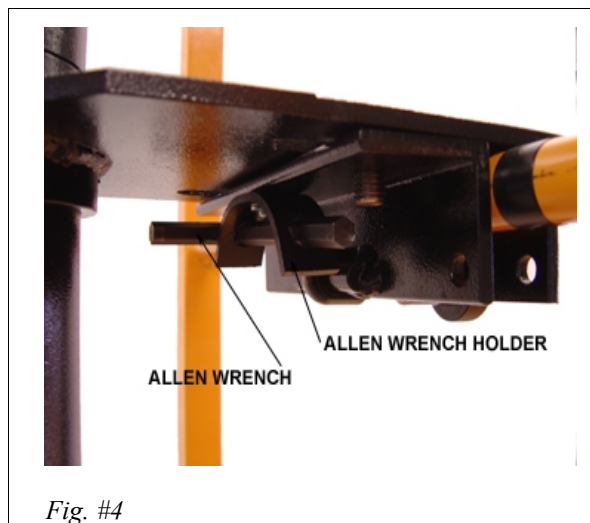


Fig. #4

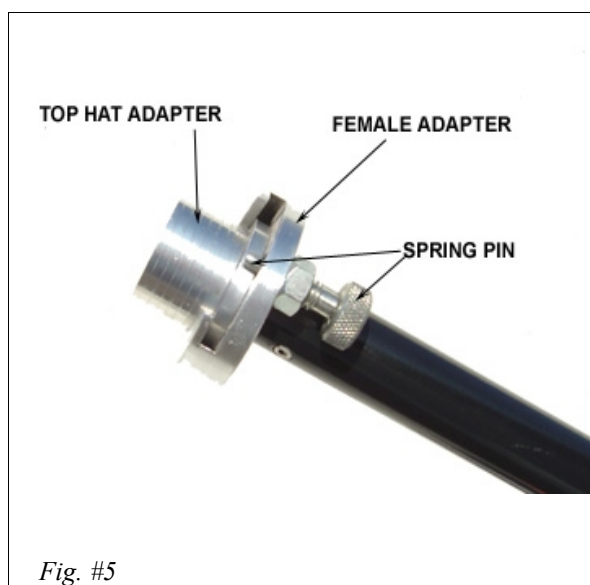


Fig. #5

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Operating Manual for The Crawler (continued)

SPEED SELECTOR

The Crawler has been designed to operate at a safe and moderate speed. Always operate the Crawler with the drill speed #1 (low) selected, as shown in fig.#6. Operating the drill in any speed other than #1 (low) will cause the scaffold to travel at unsafe speeds and possibly overturn and injure the operator. Operating the drill at any speed other than #1 (low) will void all warranties. **Any higher speed selected, will allow the scaffold to travel in excess of 1 ft. per second , possibly causing injury and is not OSHA compliant.**

MOVING THE CRAWLER BY HAND

The Crawler is intended to be used for moving scaffolds short distances while the operator is performing repetitive tasks. One battery charge can power the Crawler as far as 1500 ft. When transporting the Crawler long distances while attached to the scaffolding, it is recommended the drill carriage be reduced to its lowest point and the drill removed. The operator can then manually push and steer the scaffold using the handle, as shown in fig. #7)

NOTE: It may be necessary to elevate the drive wheel during manual transport on slick surfaces. The 15:1 gear reduction may make it difficult for the drive wheel to turn when the drive unit is not under power.

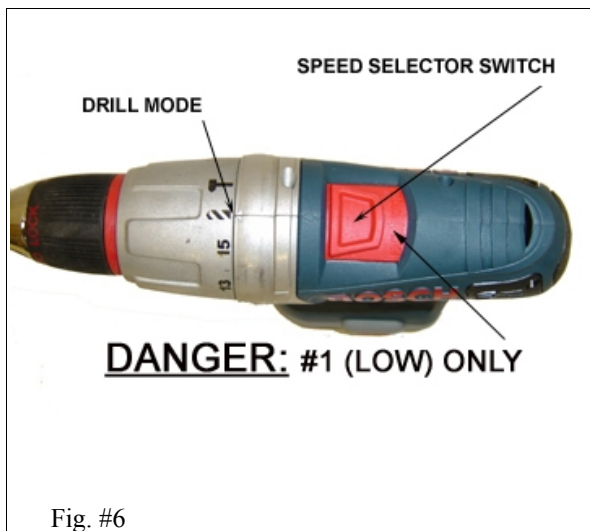


Fig. #6



Fig. #7

Operating Manual for The Crawler (continued)

TELESCOPIC HEIGHT

ADJUSTMENT

Remove the safety ring pin from the T-handle height selector pin assembly. While having a firm grip on the drill carriage and upper tube assembly with one hand, pull outward on the T-handle selector pin with the other hand, as shown in fig. #8A. The Crawler's upper tube becomes disengaged from the lower tube allowing the upper section to be raised or lowered. This function allows the Crawler to become telescopic and adapt to various heights of scaffolding.

DANGER: Before pulling the height selector pin, make certain you have a firm hold on the upper tube and drill carriage assembly, as shown in fig. #8A. If the upper tube should fall, it could cause serious injury to the operator.

After the proper height is achieved, make certain the height selector pin locates and is fully inserted in one of the adjustment holes, located in the upper tube. Reinstall the safety ring pin through the height selector pin assembly, as shown in fig.# 8B. With the height selector pin fully inserted and the safety ring pin reinstalled, the Crawler's telescopic tubes are now locked and ready for use.

DANGER: Never attempt to use the Crawler without first inserting the safety ring pin through the height selector pin assembly. This step is critical in preventing the height selector pin from accidentally becoming disengaged causing the upper tube and drill carriage to fall, potentially causing serious injury to the operator or others.



Fig. #8A

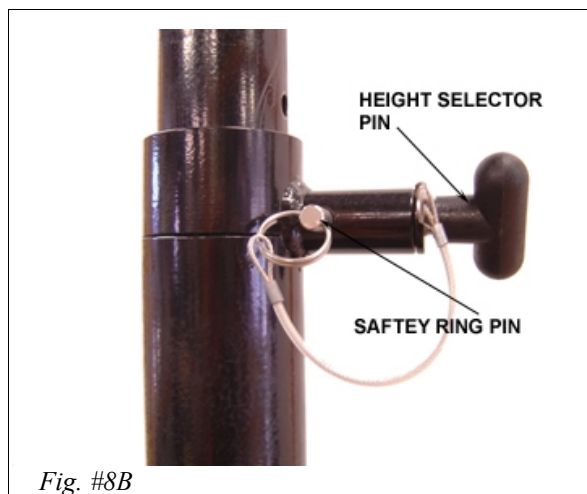


Fig. #8B

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Operating Manual for The Crawler (continued)

OPERATING THE CRAWLER UNDER LOW CLEARANCE CONDITIONS

While operating the Crawler, pay close attention to obstacles overhead, as well as any change in ceiling height. The Crawler can compress to a total height of 79", allowing it to pass through a standard door opening. **NEVER DRIVE THE SCAFFOLD THROUGH A DOOR OPENING OR LOW CLEARANCE AREA.**

When encountering a door opening or low clearance area, always dismount the scaffold, remove the drill from the carriage, and push the scaffold manually until a safe and consistent operating height is reached, as shown in fig. #9.

NOTE: It may be necessary to elevate the drive wheel during manual transport on slick surfaces. The 15:1 gear reduction may make it difficult for the drive wheel to turn when the drive unit is not under power.

THE FLOATING DRIVE WHEEL

The Crawler's drive assembly is connected only to the inner steering column and floats independent of the shorter outer tube (used to secure the Crawler to the scaffold). This allows the Crawler's drive assembly to travel vertically higher or lower than the scaffold's casters, making it possible to negotiate irregularities found on most floor surfaces, or even travel over small obstacles. It is imperative that a 2 1/2" clearance is maintained between the top of the drive assembly and the outer tube, as shown in fig. #10.



Fig. #9

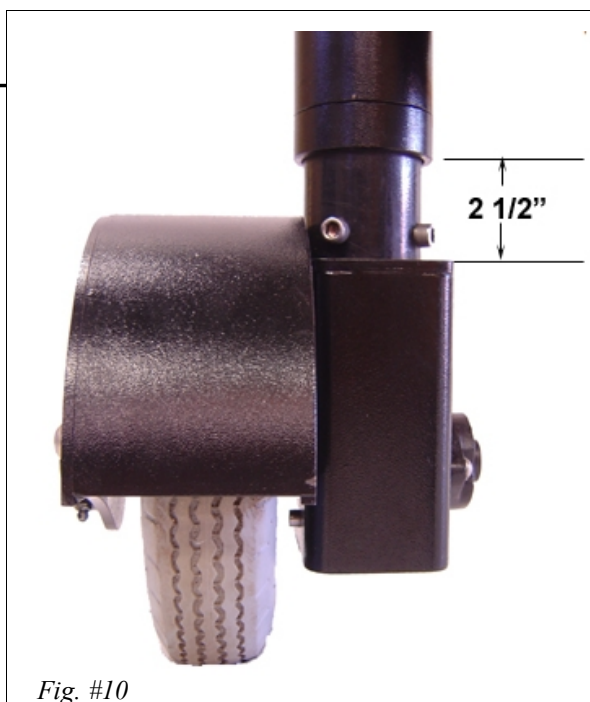


Fig. #10

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Operating Manual for The Crawler (continued)

THE CRAWLER'S

THROTTLE

The Crawler's throttle is located at the top of the steering handle and is controlled by the operator's thumb, as shown in fig. #11. With the drill properly positioned in the drill carriage, the thumb throttle activates the drill's trigger through the linkage located inside the rectangular tube. The Crawler's speed is controlled by the amount of pressure applied. The more pressure applied, the more power is transferred to the drive wheel. Take time to become familiar with the throttle's operation and sensitivity.

CRAWLER SAFETY & SECURITY

The Crawler's mounting brackets are equipped with two 3/8" holes to accept an extended shank padlock for additional security on the job site, as shown in fig. # 12A. The safety ring pin, which secures the height selector pin in place, can be easily replaced with a common 3/8" extended shank padlock for maximum safety, as shown in fig.# 12B

WARNING: If the crawler is left unattended it is strongly recommended that the safety ring pin be replaced with a padlock to prevent someone unfamiliar with the Crawler's telescopic function from serious injury.



Fig. #11

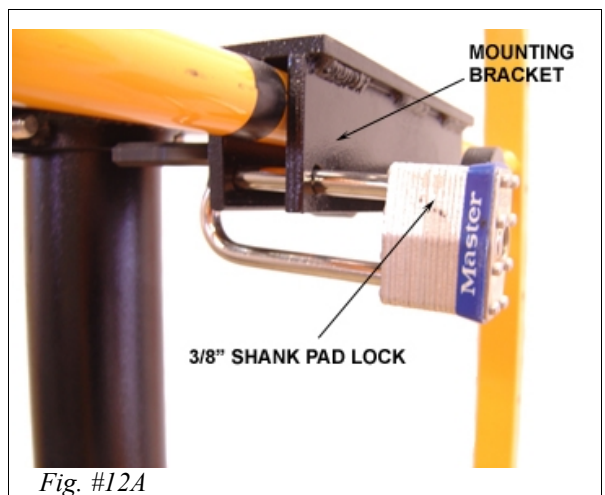


Fig. #12A



Fig. #12B

Crawler®

Operating Manual for The Crawler (continued)

REMOVING & TRANSPORTING THE CRAWLER

When removing the Crawler from the scaffold shorten the length of the telescopic portion to the minimum distance. Properly secure both the height selector pin and the safety ring pin. Remove the drill from the carriage. Loosen both clamps from the scaffold and push upward on the outer tube and mounting bracket, as shown in fig. #13A. With one hand firmly on the Crawler's outer tube and the other hand firmly on the steering handle, the Crawler can be wheeled from one location to another, as shown in fig. #13B. The Crawler can be transported or stored horizontally by carefully laying the Crawler down and allowing it to rest on the back side of the mounting brackets, as shown in fig. #13C.

MAXIMUM OPERATING HEIGHT

Never operate the Crawler while standing at a platform height greater than a 2:1 height-to-base width ratio. For example, if the base width of the scaffold's end frame is 30", the maximum safe platform height is 60" (i.e., width x 2 = max. platform height).



Fig. #13A



Fig. #13B



Fig. #13C

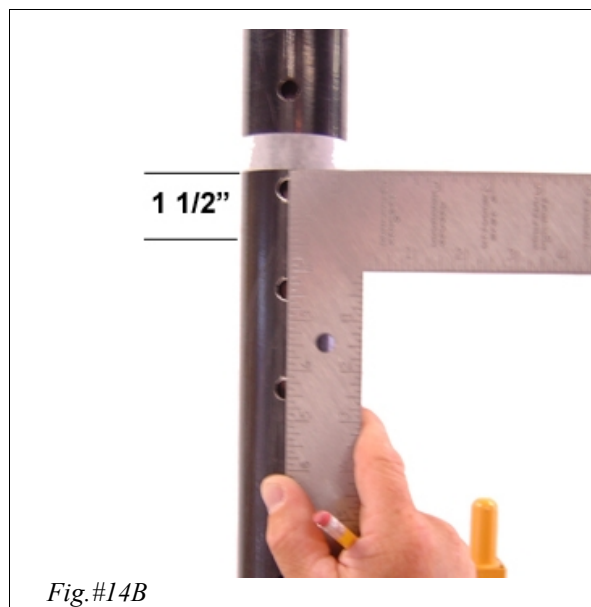
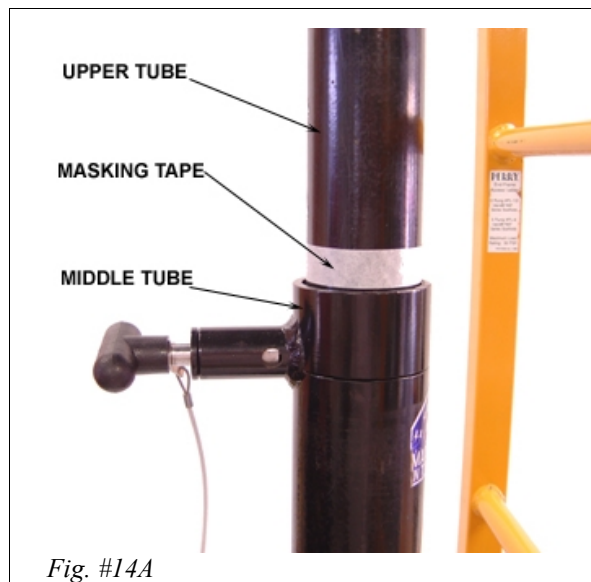
Operating Manual for The Crawler (continued)

ADDING ADDITIONAL PIN SELECTOR HOLES

Additional holes may be added between the pre-drilled holes, located in the upper tube, in order to achieve additional operating height requirements. The location for these additional holes can be located by moving the drill carriage vertically to the desired height. While holding the drill carriage at the desired height wrap a piece of masking tape around the perimeter of the upper tube at the lowest visible point possible and even with the top of the middle tube, as shown in fig.#14A. Fully extend the upper tube and drill carriage. Lock the tubes together using the height selector pin, as outlined in the “TELESCOPIC HEIGHT ADJUSTMENT” section of this manual. With the tubes locked together, locate and mark the position of the new hole by measuring down 1 ½" from the bottom of the masking tape in line with the existing pre-drilled holes using a framing square, as shown in fig. #14B. Center punch and drill a 3/8" hole through the upper tube at the mark previously located.

NOTE: Be extremely careful when drilling through the upper tube not to drill into or damage the internal drive shaft assembly.

NOTE: Make sure to allow at least 3/4" between the new hole and the existing pre-drilled holes in the upper tube.



Operating Manual for The Crawler (continued)

THE CRAWLER'S

TORQUE & AUTO BRAKE

The Crawler acquires its unbelievable torque by drastically reducing the gear ratio of an already powerful cordless drill. Through gear reduction, the Crawler reduces the speed of the drill by a ratio of 15:1 thereby increasing the torque of the drill fifteen times. The same principle applies for stopping the Crawler. The auto brake on the drill is amplified fifteen times through the same gear reduction system. The Crawler will come to a complete stop as soon the unit is no longer under power. It's still necessary and mandatory that all casters are locked when the unit is not under power.

NOTE: Lock all casters using the CASTER LOCKING POLE before climbing on or off the scaffold, as soon as the scaffold comes to a complete stop and before any work begins.

TIRE PRESSURE

The Crawler uses an 8" pneumatic non-marking tire, and should be inflated to a maximum of 50 psi. for normal use. Additional traction may be needed when operating the Crawler on slick or smooth concrete surfaces. This can be achieved by reducing the tire pressure. By reducing the tire pressure, friction is added and may result in a temporary decrease in battery life. Remember to inflate the tire to the normal operating psi. when the conditions return to normal.



Operating Manual for The Crawler (continued)

SAFETY CHECK

BEFORE

OPERATING

A daily safety check should be performed before operating the Crawler. Make certain the mounting brackets are tight and secure. Check the caster locking bar making sure it's secure and locked in place properly. Check to see if the Crawler easily rotates 360 degrees and no foreign material has become lodged between the various tubes. Make certain the throttle linkage is operating freely and the drill is locked in the carriage so the drill's trigger aligns with the linkage properly. Check the height selector pin making sure it is fully inserted and the safety ring pin is installed. Check the scaffold's casters making sure they are unlocked and turn freely and the "caster locking pole" is present and able to engage and disengage the caster locks found on your scaffold. Remove all debris (plaster, paint, joint compound, etc.) from the Crawler after every use. Foreign material can damage the unit making it dangerous to operate.

Mounting brackets	Make sure they are tight & secure.
Caster locking bar	Make sure it's in place & the lock pins are fully engaged.
Steering	Rotate the top handle making sure the Crawler can rotate 360°
Linkage	Check to see if it moves freely.
Drill	Make sure the drill is positioned in the carriage so the linkage aligns properly with the drill's trigger.
Drill clamp	Make sure the clamp is snug & the drill is secure.
Height selector pin	Make sure the pin is fully inserted through both tubes and that the tubes are securely locked together.
Safety ring pin.	Make certain the safety ring pin is inserted through the height selector pin assembly at all times.
Caster locking pole	Make sure it is present and able to engage and disengage the caster locks found on your scaffold.
Padlock	If left unattended, make certain a padlock is placed through the height selector pin assembly.

Crawler Products, LLC Limited Warranty

For Crawler Products and Accessories

Welcome to the Crawler Products Family! Please read this warranty carefully and consult your User Manual before requesting warranty service to avoid a possible service call.

WARRANTY COVERAGE

This ONE YEAR LIMITED WARRANTY on parts is limited to the terms set forth below:

Crawler Products, LLC ("Crawler") warrants those Crawler products purchased in the United States against defects in materials and workmanship for a period of one (1) year from the date of original retail purchase ("Warranty Period"). To ensure warranty service, keep the dated bill or sale receipt as evidence of the purchase date.

If a defect arises and a valid claim is received by Crawler within the Warranty Period, Crawler will provide, when needed, service labor to repair a manufacturing defect at its designated Service Center. To obtain warranty service in the United States, you must call our Customer Support at 1.866.572.8297, 9:00am – 5:00pm CST. The determination of service will be made by Crawler Customer Support. PLEASE DO NOT RETURN YOUR PRODUCT TO CRAWLER WITHOUT PRIOR AUTHORIZATION AND REPAIR MEMO NUMBER.

PARTS

New or remanufactured replacements for defective parts will be used for repairs by Crawler at its designated Service Center for the Warranty Period. Such replacement parts are warranted for the remaining portion of the original Warranty Period.

SERVICE

During the Warranty Period, at its option, Crawler will (1) repair the defective part(s), (2) replace the defective part(s), or (3) replace the entire product. The customer will be required to ship the product to the Service Center indicated at the time Customer Service is contacted to make the necessary repairs. You are responsible for all transportation charges to and from the Service Center. Crawler is not responsible for the de-installation or re-installation of the product.

PACKAGING AND SHIPPING INSTRUCTIONS

When you send the product to the authorized Crawler Service Center you must use the original cart, box and packaging material or an equivalent as approved by Crawler. Crawler accepts no responsibility for any damage during shipping due to improper packaging.

EXCLUSIONS AND LIMITATIONS

This warranty does not cover defects, malfunctions or failures resulting from shipping or transit accidents, abuse, misuse, operation contrary to furnished instructions operation on incorrect power supplies, operation with faulty associated equipment, modification, alteration, improper servicing, tampering or normal wear and tear or products which the serial number has been removed or defaced.

TO THE MAXIMUM EXTENT PERMITTED BY LAW, THIS WARRANTY AND THE REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, REMEDIES AND CONDITIONS, WHETHER ORAL OR WRITTEN, EXPRESS OR IMPLIED. CRAWLER SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IF CRAWLER CANNOT LAWFULLY DISCLAIM OR EXCLUDE IMPLIED WARRANTIES UNDER APPLICABLE LAW, THEN TO THE EXTENT POSSIBLE ANY CLAIMS UNDER SUCH IMPLIED WARRANTIES SHALL EXPIRE ON EXPIRATION OF THE WARRANTY PERIOD.

TO THE MAXIMUM EXTENT PERMITTED BY LAW, CRAWLER IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, OR UNDER ANY OTHER LEGAL THEORY, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, DOWN TIME, AND ANY DAMAGE TO OR REPLACEMENT OF EQUIPMENT AND PROPERTY. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

Crawler retains the right to assess all warranty claims and to determine if damages are covered by the warranty. In the case of a claim that is not covered by the warranty you will be contacted to determine whether Crawler should repair the damages for a fee or whether the product should be returned to you as received by the Service Center. There are no warranties which extend beyond the description on the face hereof.

USER MANUAL

Please review your User Manual carefully so that you will understand the installation and operation of your Crawler product and how to maximize its safety and efficiency.

WARRANTY SERVICE

For warranty service information contact Crawler at 1.866.572.8297, 9:00am – 5:00pm CST. Parts and service labor that are the responsibility of Crawler will be provided without charge. Other service is at customer's expense. You must provide the model, serial number and purchase date.