# OPERATION AND SAFETY MANUAL

## 5/16" OD DUCT HUNTER™

### Traceable Rodder for 2" - 4" Conduit or Pipes

| Part Number | Length | EZ-REEL™ Replacement |
|---|---|---|
| 12-516-300M | 300' | 12-300RRM |
| 12-516-400M | 400' | 12-400RRM |

Rod Is marked In 5' increments. Add an additional “M” to part number for metric marked rod.


| Specifications | |
|---|---|
| Conduit/Pipe Diameter | 2" - 4" |
| Conduit/Pipe Material | Ductile Iron, Plastic, Tile, Concrete |
| Minimum Bend Radius | 6" |
| Maximum Pull Force | 500 lbf |
| Male End Thread | 3/8"-16 |
| Maximum Depth | 10' |


## ⚠ WARNING

- **DO NOT USE ON LIVE CIRCUITS. DISCONNECT POWER.** Metal tip on rod.
- Wear safety glasses and gloves.
- Keep rod inside reel when not in use. Out-of-control rod can harm personnel or property.
- Keep rod clean. Some contaminants (including water) can conduct electricity.
- Keep secure footing. Protect yourself from falling should pulling eye move suddenly or separate from rod.
- Check for rod damage prior to use. Cracks, gouges, nicks, or white stress marks on jacket or sharp bends will weaken rod. Injury could result if rod breaks while pulling.
- Do not use slip joint pliers, locking pliers or powered pulling equipment on rod.
- Do not force a pull that is stuck. Check for kinks or obstructions.
- Avoid pulling rod over sharp edges.
- Do not bend rod beyond 6” radius.

## ⚠ WARNING - ADHESIVE

Read manufacturer’s instructions before using adhesive. In case of eye contact, flush with water and seek medical attention. If skin contact occurs, apply solvent (such as nail polish remover) to area and gently remove adhesive. Wash solvent off with water. Solvents should not be used in case of contact with eyes or open wounds.
Always wear safety goggles (ANSI Std. Z87.1) and gloves when working with adhesive and/or unprotected fiberglass rod. See adhesive product label for Safety Data Sheet (SDS).

### WARRANTY

Jameson products carry a warranty against any defect in material and workmanship for a period of one year from date of shipment unless failure is due to misuse or improper application. Jameson shall in no event be responsible or liable for modifications, alterations, misapplications or repairs made to its products by purchaser or others. This warranty is limited to repair or replacement of the product and does not include reimbursement for shipping or other expenses incurred. Jameson disclaims any other express or implied warranty.

# Accessories


5/16" Duct Hunter Accessory Kit

End Ferrule

Splice Ferrule

Swivel Eye

Roller Guide

Flexible Leader with Ball

Sonde

Roller Guide with Spring Leader

Double Female Solid Adaptor

Female/Male Solid Adapter

| Accessory | Description | Part Number |
|---|---|---|
| Accessory Kit | Canvas Pouch - Roller Guide, End Ferrule, Splice Ferrule, 2 Adhesive, 2 Emery Cloth, Heat Shrink Tubing & Rod Terminal | 12-516-AK or 12-516-AK-R |
| End Ferrule Repair Kit | End Ferrule, Adhesive, Emery Cloth & Rod Terminal (1/4" & Larger Rod Only) | 12-146 or 12-146-R |
| Splice Repair Kit | Splice Ferrule, Adhesive, Emery Cloth, Heat Shrink Tubing and Rod Terminal (1/4" & Larger Rod Only) | 12-140 or 12-140-R |
| Roller Guide | Guides rod through bends, sweeps, misalignments & wires; Increases contact with pipe on lead end of rod to improve overall signal strength | 9-141 or 9-141-R |
| Roller Guide with Spring Adapter | Heavy-duty spring & chain with ball nose helps rod move over rough surfaces and pipe joints, 3/8"-16 hole (also fits Buddy rodders with 3/8" and 1/2" rods) | 12-163 |
| Swivel Eye | Attaches pull line to rod, swivels | 9-139 |
| Sonde | Sonde, Operates at 512 HZ, 1/4-20 Female Thread. .12 lbs, 2.25" x .75" | 14-169 |
| Sonde Adapter | Heavy Duty Flexible Adapter with Chain, Fits 5/16"and 7/16" Duct Hunters. Fits 3/8" and 1/2" Buddy Rodders; Fits 14-169 Sonde | 9-169 |
| Female/Male Sonde Adapter | Solid Adapter, Fits Sonde and 3/8", 1/2", 5/16", 7/16" Rod | 9-170 |
| Double Female Sonde Adapter | Solid Double Female Adapter, Fits 3/8", 1/2", 5/16", 7/16" Rod and M-10 Male Sonde | 12-170 |
| Sonde With Flexible Adapter | Kit: Sonde 14-169 and Adapter 9-169 | 12-165 |

*Accessories sold separately*
** Items Ending In "-R" Are Provided In Display-Ready Packaging*

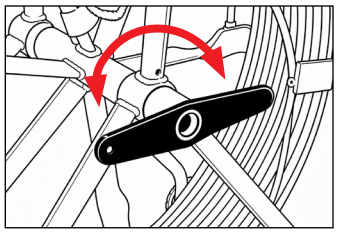
# Duct Hunter Operation

## Use With Transmitter and Receiver. Not Included With Duct Hunter.

1. Set drag brake to highest amount of drag.
2. Insert end of rod between the upper and lower nylon safety roller guides. This ensures rod is safely contained while working with it.
3. Release pressure on drag brake handle so rod will begin to slowly payout from reel.
4. Brake may be set for constant drag on payout of rod. Constant drag makes one-man operation possible.

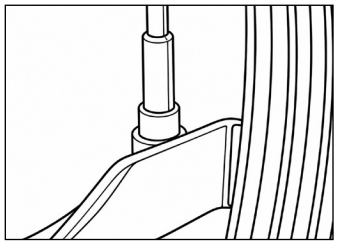
   Fully tightening brake stops rod payout. For constant drag and controlled payout, set brake handle where reel turns only as rod is pulled out.
5. Pay out rod into underground facility. Lock brake handle.
6. Attach signal output lead from transmitter to brass end ferrule on clip attachment. Attach ground lead to desired ground mechanism.
7. Follow transmitter's operating instructions to apply desired signal frequency to rod.*
8. Use receiver to trace path of rod following instructions of receiver.
9. If further rod payout is required, detach transmitter output lead, loosen drag brake and pay out more rod. Lock brake handle and re-attach transmitter output lead.
10. When recoiling rod, detach transmitter lead, loosen drag brake and push rod back onto reel. Allow reel to spin only when pushing rod. Do not manually spin reel in an attempt to reel up rod.

* Always follow the manufacturer's instructions and precautions when using your transmitter and receiver. Jameson is not responsible for damage or injury as a result of improper use of your transmitter or receiver.



Drag Brake

Roller Guides



Clip Attachment

## Troubleshooting Tips: Traceable Rodder Operation

In rare instances, a buried utility is difficult to locate for reasons such as extreme depth of pipe, extreme length of pipe, material of pipe, extremely dry soil, outdated locating equipment, crowded surrounding utilities, common utility grounds, etc. Jameson Traceable Rodders are not guaranteed to solve every conceivable locating challenge. The experience of the user plays the largest role in achieving a successful locate.

If the user cannot locate the rod signal, perform the following checks:

1. Verify transmitter and receiver have batteries installed with adequate charge level.
2. Verify transmitter and receiver are set to matching frequencies.
3. Once confirmed, follow either test method below to inspect for a defect in the rod or ferrule:

**Test Method 1 (preferred):** Use a digital multi-meter to check continuity from the hook-up point on the reel of the Duct Hunter to the tip end ferrule. If the continuity is good (usually less than 30 Ohms,) the DH is functioning properly.

**Test Method 2:** If a multi-meter is not available, perform an alternate continuity test instead. Pay out 75-100 feet of rod and make a large loop on the ground. Connect the red clip of your transmitter to the contact lug on the reel, and the black clip to the tip end ferrule. Attempt to trace the rod with the receiver. If it traces, the DH is functioning properly.

**Note:** The Duct Hunter has a continuous copper wire. Failures in the field are usually due to locating equipment error, inexperience, or extreme environments. Tests in Step 3 will indicate if a legitimate de-fect is present, such as the ferrule on the hook-up point on the reel becomes loose and fails to contact the copper wire inside the rod.

4. If Test Methods 1 and/or 2 fail, replace the end ferrule and re-test.
5. If Test Methods 1 and/or 2 pass, you may want to:
   a. Use the highest frequency available on the transmitter
   b. Use the highest power setting on the transmitter, and choose a frequency below 45 kHz.
   c. Improve the depth of the ground spike, and/or pour water around the ground spike.

## Splicing Rod Or Attaching New End Ferrule

1. Cut away damaged section(s) of rod with a fine-tooth hacksaw, cable cutter or sharp knife. With pipe cutter and/or sharp knife, strip red protective jacket back from fiberglass core approximately 2". Do not cut fiberglass core when stripping jacket. Do not crush fiberglass core.
2. Once jacket is removed, use pipe cutter again to score a mark around fiberglass core approximately 1" from edge of jacket. Use sharp knife to carefully strip away 1" of fiberglass core closest to rod end to expose copper wire. Be careful not to damage wire. The 1" portion of rod closest to jacket will remain intact (Fig.1).
3. Using sharp knife, strip away a flat spot on remaining 1" portion of fiberglass core approximately as deep as wire diameter (.04"). Cut exposed wire length to approximately 1" and lightly strip away thin coating on copper wire. Fold wire back along flat spot in fiberglass core (Fig. 2)
4. Attempt a test fit of replacement ferrule over exposed fiberglass core with wire folded back. It should be firm and snug with little or no play to assure wire contacts inside of ferrule. If too loose, cut away rod end and repeat Steps 1-4.
5. Once proper fit is established, install end ferrule without adhesive andcheck for continuity of the internal copper wire using a digital multi-meter. Touch a probe to end ferrule at each end of coiled rod. Any resistance reading (generally between 2-12 ohms) indicates proper continuity.
6. Remove end ferrule. Clean rod end and ferrule with cleaning solvent or alcohol to remove debris and glass fibers. Allow solvent to completely evaporate. Step 6 is extremely important.
7. Mix and apply adhesive to entire surface of fiberglass core and wire. Insert rod into ferrule as far as possible, enclosing end of red jacket in counterbore of ferrule. Wipe away excess adhesive.
8. Check rod again for continuity using digital multimeter. The adhesive will not set for 20 minutes. If no continuity, remove ferrule, clean off adhesive and repeat steps 1-7.

**Splicing:** Follow steps 1-8 for both ends of rod being spliced. Use splice ferrule instead of end ferrule. Before inserting prepared rod ends into splice ferrule, slide piece of heat shrink tubing over one rod end and move it along rod out of way.

Once a proper splice is obtained, wait at least 20 minutes for adhesive to set. Move heat shrink tubing over splice ferrule so it is completely covered. Use heat gun or blow torch to carefully shrink tubing, starting in center and working toward each end. Wipe away any adhesive that oozes from the heat shrink tubing.

**Repaired or spliced rod should be allowed to cure 24 hours prior to use.**

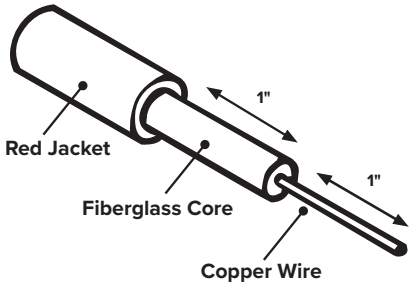



Fig. 1

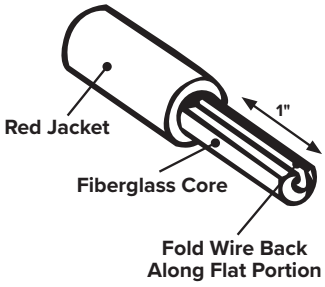
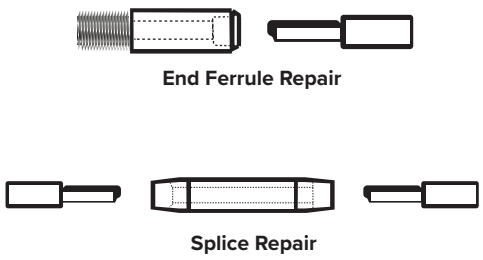



Fig. 2



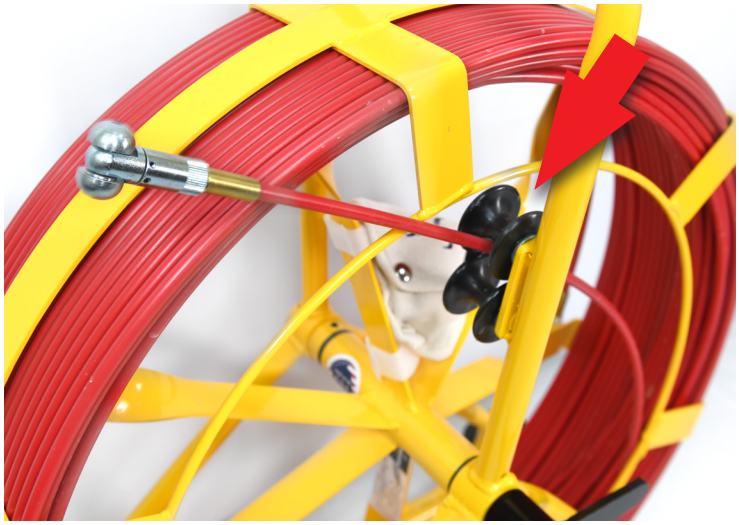
## Safety Tips: Rodder Operation and Storage

# ⚠ WARNING

When rod is engaged with twin roller guides, the spring tension in the rod will naturally result in rod paying out and reel rotating. Ensure brake is engaged as required to prevent injury. Wear safety glasses and gloves at all times.

### ENGAGE

- Release brake tension to rotate protective cage
- Carefully remove rod from protective cage and place it between the twin roller guides
- Set brake tension for payout speed by adjusting black handle



### BRAKE

- Adjustable brake controls payout speed and secures rodder for storage when fully engaged

### STORAGE & TRANSPORT

- Rotate reel while holding rod end to disengage rod from twin guide pulleys
- Carefully place the rod safely inside the protective cage
- Fully engage brake by turning black handle till it stops