

## Preparing Your Dual-Crank 6

1. Remove both cranks.
2. Remove swing-lock clutch: Drive clutch shaft out by tapping it with a hammer and drift punch or thin screwdriver from the side opposite the clutch knob.
3. Remove cable from reel, being careful not to let it tangle, so it can be replaced later without kinking. The easiest way to do this is to coil it into a large, open cardboard box (at least $18^{\prime \prime}$ square).
4. Gently drive the reel-shaft pin out of the reel, using a drift punch or thin screwdriver.
Important: The pin must be removed through the cable opening as pictured. If you drive it straight down toward the baselocking wheel, it becomes extremely difficult to remove. (Other models don't have a reel-
 shat pin.)
5. Remove reel by gently driving the reel shaft out either side using a hammer and drift punch or thin screwdriver slide depth meter away from reel. Lith reel out and lay it next to downrigger with cable still attached.
6. Examine the reel. If the shaft pin hole is threaded in your reel, proceed to step 1 of installing motor. If your reel is not threaded. tap the hole through one side with a $5 / 16-18$ tap.

## Converting Dual-Crank G TM $^{\text {TM }}$ or Uni-Troll $6_{\text {TM }}$ to Magnum 10A Tm $^{\text {m }}$

Conversion Kit No. 2250136

## Preparing Your Uni-Troll 6

1. Remove crank by turning counterclockwise. (Note: Earlier modets have a retainer knob and set screw No. C-2292 which will have to be removed before unscrewing crank.) Also remove the spring. thrust bearing, and races from shaft.
2. Remove cable from reel, being careful not to let it tangle, so it can be replaced later without kinking. The easiest way to do this is to coil it into a large, open cardboard box (at least $18^{\prime \prime}$ square).
3. Loosen set screw No. 9340130 from cable reel, using a $5 / 32$ hex key (approximately 4 turns will be enough).
4. Remove the clutch cover, held by four screws, then the ratchet shaft, and clutch pad.
5. Remove reel by gently driving the clutch shaft out, using a hammer and drift punch or thin screwdriver. Slide depth meter away from reel, lift reel out and lay it next to downrigger with cable stir attached.
Important: Sone of the parts from your Uni-Troll 6 look very similar to some in your conversion kit, but they are not the same. Place the parts from your Uni-Troll in a completely separate container before proceeding.

## Installing the Motor

This procedure is the same for both Uni-Troll and Dual-Crank 6 conversion. Follow instructions on other side of sheet.

Identification of Uni-Troll 6 parts


SET SCREW
CLUTCH-SHAFT BEARINGS
RATCHET DOG
CLUTCH
COVER
RATCHET DOG

ATCHET SHAFT
CABLE REEL

ASSEMBLY
RATCHET PLATE
Cable reel




## Preparing Your Dual-Crank 6

1. Remove both cranks.
2. Remove swing-lock clutch: Drive clutch shaff out by tapping it with a hammer and drift punch or thin screwdriver from the side opposite the clutch knob.
3. Remove cable from reel, being careful not to let it tangle, so it can be replaced later without kinking. The easiest way to do this is to coil it into a large, open cardboard box (at least $18^{\prime \prime}$ square).
4. Gently drive the reel-shaft pin out of the reel, using a drift punch or thin CABLE REEL screwdriver.
Important: The pin must be removed through the cable opening as pictured. If you drive it straight down toward the base-locking wheel, it becomes extremely difficult to remove. (Older models don't have a reel-shatt pin.)

5. Remove reel by gently driving the reel shaft out either side. Slide depth meter away from reel, lift reel out, and clip the cable.

## Preparing Your Uni-Troll 6

1. Remove crank by first removing the acorn nut. (Earliermodels have set screw No. C2292, and a retainer knob instead of an acomn nut.) Also remove the spring, thrust bearing, and races, from the shaft
2. Remove cable from reel, being careful not to let it tangle, so it can be replaced later without kinking. The easiest way to do this is to coil it into a large, open cardboard box (at least $18^{* \prime}$ square).
3. Remove set screw No. C2285 from cable reel, using a $5 / 32$ hex key.
4. Remove the clutch cover, held by four screws, then the ratchet shath, plate, clutch pad, bushing and cutch plate.
5. Remove reel by gently driving the clutch shaft out, using a hammer and drift punch or thin screwdriver. Slide depth meter away from reel, ift reel out and lay it next to downrigger with cable still attached.
Important: Sorne of the parts from your Uni-Troll 6 look very similar to some in your conversion kit, but they are not the same. Place the parts from your Uni-Troll in a completely separate container before proceeding.

# Converting Dual-Crank $6_{\text {rm }}$ or Uni-Troll $6_{\text {rm }}$ to Magnum 10Arm 

Conversion Kit No. C2119AR

## Installing the Motor

This procedure is the same for both Uni-Troll and Dual-Crank 6 conversion. Follow instructions on other side of sheet.


## Preparing Your Dual-Crank 6

1. Remove both cranks.
2. Remove swing-lock clutch: Drive clutch shaft out by tapping it with a hammer and drift punch or thin screwdriver from the side opposite the clutch knob.
3. Remove cable from reel, being careful not to let it tangle, so it can be replaced later without kinking. The easiest way to do this is to coil it into a large, open cardboard box (at least $18^{\prime \prime}$ square).
4. Gently drive the reel-shaft pin out of the reet, using a drift punch or thin screwdriver.
Important: The pin must be removed through the cable opening as pictured. If you drive it straight down toward the baselocking wheel, it becomes extremely difficult to remove. (Other models don't have a reel-
 shaft pin.)
5. Remove reel by gently driving the reel shaft out either side using a hammer and dritt punch or thin screwdriver slide depth meter away from reel. Lifl reel out and lay it next to downrigger with cable still attached.
6. Examine the reel. If the shaft pin hole is threaded in your reel, proceed to step 1 of installing motor. If your reel is not threaded, tap the hole through one side with a 5/16-18 tap.

# Converting Dual-Crank $\mathbf{G}_{\mathrm{TM}}$ or Uni-Troll $\mathrm{G}_{\text {tm }}$ to Magnum 10ATM 

Conversion Kit No. 2250136

## Preparing Your Uni-Troll 6

1. Remove crank by turning counterclockwise. (Note: Earlier modets have a retainer knob and set screw No. C-2292 which will have to be removed before unscrewing crank.) Also remove the spring. thrust bearing, and races from shaft.
2. Remove cable from reel, being careful not to let it tangle, so it can be replaced later without kinking. The easiest way to do this is to coil it into a large, open cardboard box (at least 18 " square).
3. Loosen set screw No. 9340130 from cable reel, using a $5 / 32$ hex key (approximately 4 turns will be enough).
4. Remove the clutch cover, held by four screws, then the ratchet shaft, and clutch pad.
5. Remove reel by gently driving the clutch shatt out, using a hammer and drift punch or thin screwdriver. Slide depth meter away from reel, lift reel out and lay it next to downrigger with cable stin attached.
Important: Some of the parts from your Uni-Troll 6 look very similar to some in your conversion kit, but they are not the same. Place the parts from your Uni-Troll in a completely separate container before proceeding.

## Installing the Motor

This procedure is the same for both Uni-Troll and Dual-Crank 6 conversion. Follow instructions on other side of sheet.


## Converting Dual-Crank 6 or Uni-Troll 6 to Magnum 10A - continued

## Installing the Motor

1. Remove motor cover and use it as a tray to hold the contents of the plastic bag. (Retain the two screws that held the cover for later use. Also save the strip of masking tape on the outside of the bag.)
2. Unscrew the clutch knob from the left-hand threaded clutch assembly. Place the thrust bearing, thrust-bearing races, and motor-housing guide in the motor cover, then slide the clutch shaft off the drive shaft.
3. All Lexan bodied units, (and aluminum bodied units built after 1985) have the motor housing guide mounting holes pre-drilled. If your unit has pre-drilled holes, mount the housing guide using the screws provided, and proceed to step 9
Note: Lexan bodied units use the $\# 8 \times 5 / 8$ sheet metal screws. Aluminum bodied units use the $\# 8 \times 1 / 2$ self-tapping screws.
4. We'll use the clutch shaft first as a jig to ensure correct positioning of the motor-housing guide: insert it through the body with both clutch-shaft bearings in position.
5. Wrap two fums of the masking tape from the parts envelope smoothly around the projecting end of the clutch shaft.
6. Fit the motor-housing guide over taped end of shaft and push it firmly against body.
7. Using the hole on either side of the motor-housing guide as your template, drill one screw hole through the aluminum body with a No. $25^{\circ}$ drill bit.
"If a No. 25 drill is not available, a $5 / 32$ " bit can be substituted. Important: Secure that side of the guide with a $1 / 2$-inch selftapping screw before drilling the other side to be sure there's no slippage. Then drill the second hole and install the second screw.
8. Remove the clutch shaft. (The shaft bearings will also have to be removed to get the taped end through.) Remove the tape.
9. Place the shaft bearings in the body and lubricate both with light grease.
10. Replace the cable reel in oownigger body and insert the clutch shaft.
Important: Be sure the meter gear is on the meter side of the ree!!
Very Important Be sure the base-ocking wheel is in position inside the body. (ff it's not inside before you install the reel, it can't be insisted fater without taking the entire assembly apart again.)
11. Make sure the threaded side of the hole through your reel is nearest you, then line up the holes in the reel with holes in clutch shaft.
Very Important: Keeping the holes aligned is critical, because the dog point on the set screw must go into the hole in the shaft, not just be tightened against the shaft. (See cross-section diagram.)
Here's how to be sure: insert a $3 / 16^{\prime \prime}$ or smaller rod clear through the reel so you know the holes are aligned to start. Hold the reel still while you carefully insert the set screw as far as it will
Horizontal Cross-Section of completed assembly


go. Tighten it firmly against the shaft. Then rotate the reel a halftum and insert your test rod on the opposite side from the set screw. II you can see the end of your lest rod through the center of the shaft, you know the holes are locked in alignment.
12. Insert drive shaft through center of clutch shaft and check to be sure it turns freely. Remove the drive shaft. Slip the clutch plate for drive shaft, the clutch pad, and clutch plate for clutch shaft on to the drive shaft, lubricate the shaft, and reinsert it in the clutch shaft.
Note: The square drive of the shaft assembly must engage the clutch plate for drive shaft, and the clutch plate for clutch shaft must engage the clutch shaft
13. Lubricate the thrust bearing, sandwich it between its two races, and slip all three over the threaded end of the drive shaft.
14. Screw the clutch knob onto the left-hand threaded shaft and tighten it securely by hand.
15. Note that the plastic acom nut has no threads. insert it in a socket wrench, which will hold it while you thread it onto the end of the shatt. (Remember to tum it to the left.)
16. Remove the CANNON tabel on motor side of the body to expose third hole for mounting motor.
17. Lubricate gear on exposed end of drive shaft, and place motor housing over the gear. The motor-housing guide you installed earlier fits snugly into the hole in motor housing to ensure that the gears will align properly.
18. Rotate the motor housing on its guide to align the mounting holes. Attach the motor housing to the body with the three screws provided. Insert the bottom screw first but leave it loose. Insert the remaining screws in the top two holes, and tighten all three securely. Note: Aluminum bodied units, and Lexan bodied units with threaded inserts use the $1 / 4-20 \times 1$ bolts and $1 / 4$ lockwashers.
Lexan bodied units without inserts use the $1 / 4 \times 1^{\prime \prime}$ hex washer head screws.
19. Rewind cable, rotate top of reel toward front of downrigger. Let the cable run through your other hand to keep light tension on it This also lets you detect a tangle before it becomes a kink that can weaken your cable.
20. Attach motor cover using the seven $7 / 8$-inch self-tapping screws.

## YOU NOW HAVE A MAGNUM 10A DOWNRIGGER!

See operating instructions on the enclosed Magnum 10A instruction sheet.

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## Converting Dual-Crank 6 or Uni-Troll 6 to Magnum 10A - continued

## Installing the Motor

1. Remove motor cover and use it as a tray to hold the contents of the plastic bag. (Retain the two screws that held the cover for later use. Also save the strip of masking tape on the outside of the bag.)
2. Unscrew the clutch knob from the left-hand threaded clutch assembly. Place the thrust bearing, thrust-bearing races, and motor-housing guide in the motor cover, then slide the clutch shaft off the drive shaft:
3. We'll use the clutch shafl first as a jig to ensure correct positioning of the motor-housing guide: Insert it through the body from the meter side (this is backwards from its final assembly position), with both clutch-shaft bearings in position. Slide the depth meter inward, so the shaft can extend as far as possible through the body.
4. Wrap two turns of the masking tape from the parts envelope smoothly around the projecting end of the clutch shaft.
5. Fit the motor-housing guide over taped end of shaft and push it firmly
against body.
6. Using the hole on either side of the motor-housing guide as your template, drill one screw hole through the aluminum body with a No . $25^{\circ}$ drill bit.
Important: Secure that side of the guide with a $1 / 2$-inch self-tapping screw before drilling the other side - to be sure there's no slippage. Then drill second hole and install second screw.
7. Remove the clutch shaft. (The shaft bearings will also have to be removed to get the taped end through.) Remove the tape.
8. Place the shaft bearings (Important, place short one on meter side) in the body and lubricate both with light grease.
9. Place the one-piece cable reel, included with kit, in downrigger body and insert the clutch shaff from the side opposite the depth meter. Important: Be sure the meter gear is on the meter side of the reel! Very Important: Be sure the base-locking wheel is in position inside the body. (ffit's not inside before you install the reel, it can't be inserted later without taking the entire assembly apart again!)
10. Make sure the threaded.side of the hole through your reel is nearest you, then line up the holes in the reel with holes in clutch shatt. Very Important Keeping the holes aligned is critical, because the dog point on the set screw must go into the hole in the shatt, not just be tightened against the shaft (See cross-section diagram.)
Here's how to be sure: insert a $3 / 16^{\circ}$ or smaller rod clear through the reel so you know the holes are aligned to start. Hold the reel still while you carefully insert the set screw as far as it will go. Tighten it firmly against the shaft. Thenrotate the reei a hail--um and insert your test rod on the opposite side from the set screw. If you can see the end of your testrod through the center of the shaft, you know the holes are
locked in alignment.

Horizontal Cross-Section of completed assembly.

 curs shandeheklo be sure turns freely. Then remove drive shaff, slip clutch plate (with square hole), clutch pad, and clutch plate (with oblong hole), over it, fubricate the shaft, and reinsert it in clutch shatt.
12. Lubricate the thrust bearing, sandwich it between its two races, and slip all three over the threaded end of the drive shaft.
13. Screw the clutch knob onlo the left-hand threaded shaft and tighten it securely by hand.
14. Note that the plastic acom nut has no threads: Insert it in a socket wrench, which will hold it while you thread it onto the end of the shatt. (Remember to turn it to the left.)
15. Remove the CANNON label on motor side of the body to expose third hole for mounting motor.
16. Lubricate gear on exposed end of drive shaft, and place motor housing over the gear. The motor-housing guide you installed earlier fits snugly into the hole in motor housing to ensure that the gears will align properly.
17. Rotate the motor housing on its guide to align the mounting holes. Attact housing to body with three $1 / 4-20 \times 3 / 4^{n}$ hex head bolts and lock washers. insert bottom bolt first, but leave it loose. Insert the toptwo next, then tighten all three securely.
18. Reattach cable to reel: After threading the free end through the swivel head from the bottom, insert it through the tiny hole in the reet hub, located next to the large hole. Secure it by crimping it into a replacement cable sleeve (Cannon accessory No. C2067A), just like it was
fastened in your original reel. fastened in your original reel.
19. Rewind cable by hand, rotating top of reel toward front of downingger,
Let the cable run through your other hand to keep light tension on it Let the cable run through your other hand to keep light tension on it. This also lets you detect a tangle before it becomes a kink that can weaken your cable.
20. Attach motor cover using the seven, $7 / 8$-inch self-tapping screws.

## YOU NOW HAVE A MAGNUM 10A DOWNRIGGER! <br> See operating instructions on the enclosed Magnum 10A instruction sheet.

"If you don't have a No. 25 bit, a $5 / 32$ " bit can be substituted.

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