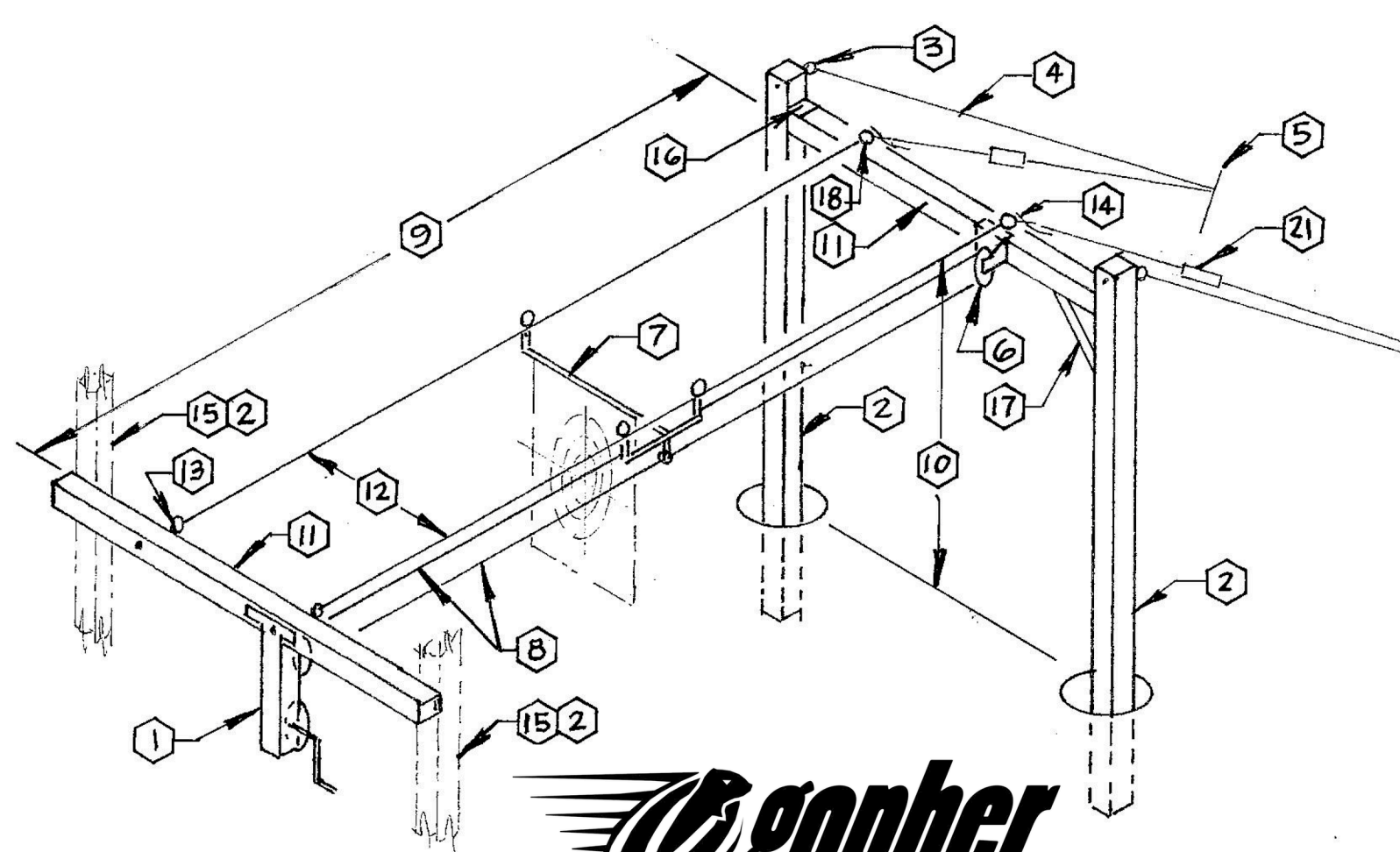




INSTALLATION MANUAL



THE ORIGINAL



CONFIGURATION

1	Gopher Transmission – anchor to wood 4x4
2	Wood 4x4 – set in earth (30” – 36” recommended)
3	Eyebolt; 5/16”x4 1/2” – Set approx. 8 ft. above grade
4	Guy Straps – (recommend 35-40-deg angle w/ground, inline w/posts)
5	Earth Stakes – (choice may vary with site earth conditions)
6	Gopher Return Pulley – anchor to wood 4x4
7	“Gopher CART” - Target Shuttle
8	Gopher CART Tow Cord
9	Runway length varies – (recommend 10 yd. – 100 yd.)
10	Runway height varies – (recommend 6’ 10”)
11	Wood 4x4 beam
12	Runway cord
13	Eyebolts; 1/2”x4”
14	4” Cleat
15	Building support; or alternate ground support
16	Metal beam clip: Lowes sku#81942 11217, or equal
17	Diagonal brace post to beam, 1 per post; Lowes sku#81942 05278
18	Eye lag; 3/8”
19	Self-tapping screw
20	1 5/8” coated deck screws
21	Optional runway cord tensioning device
A	SHOOTER END
B	TARGET END

Item 2, 11, 15, 16, 17, & 20 provided by Owner. Owner provided materials as available through a local building supply house.

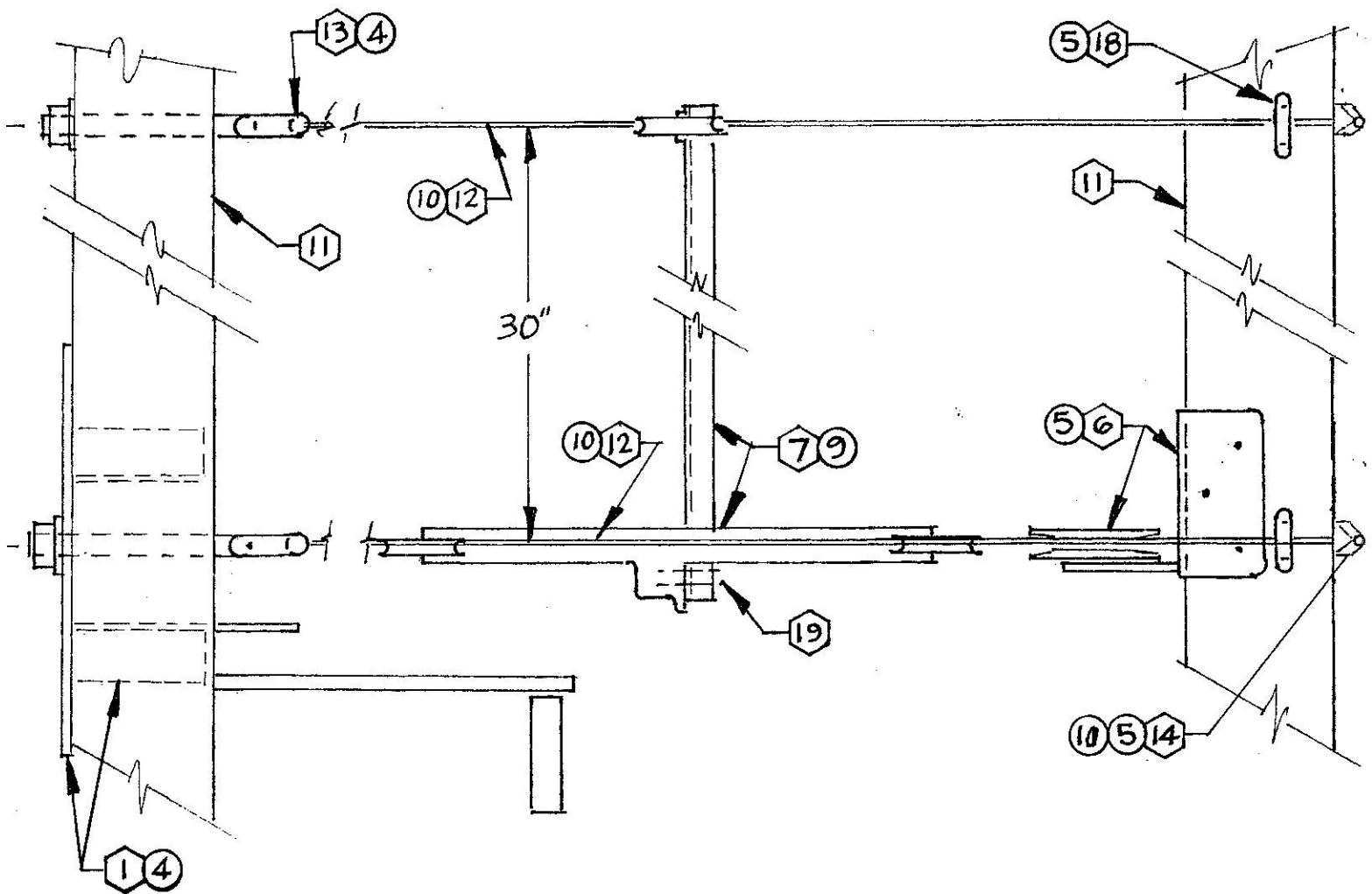


Figure 1- Plan View

⬡ Material Item – see Page 1

○ Note – see Page 5 - 7

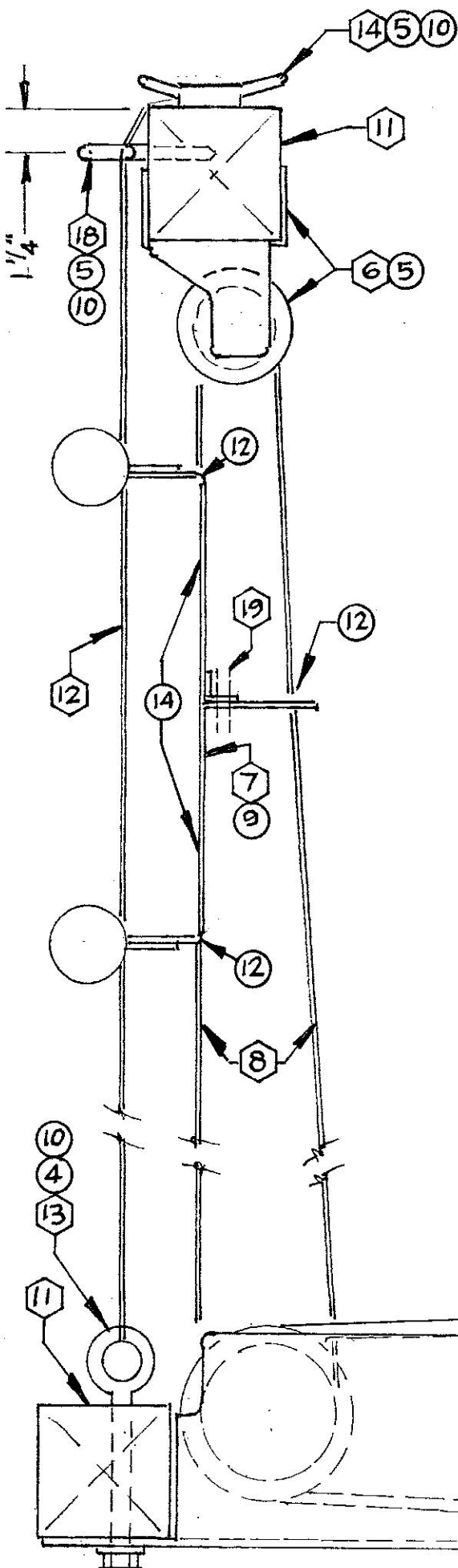
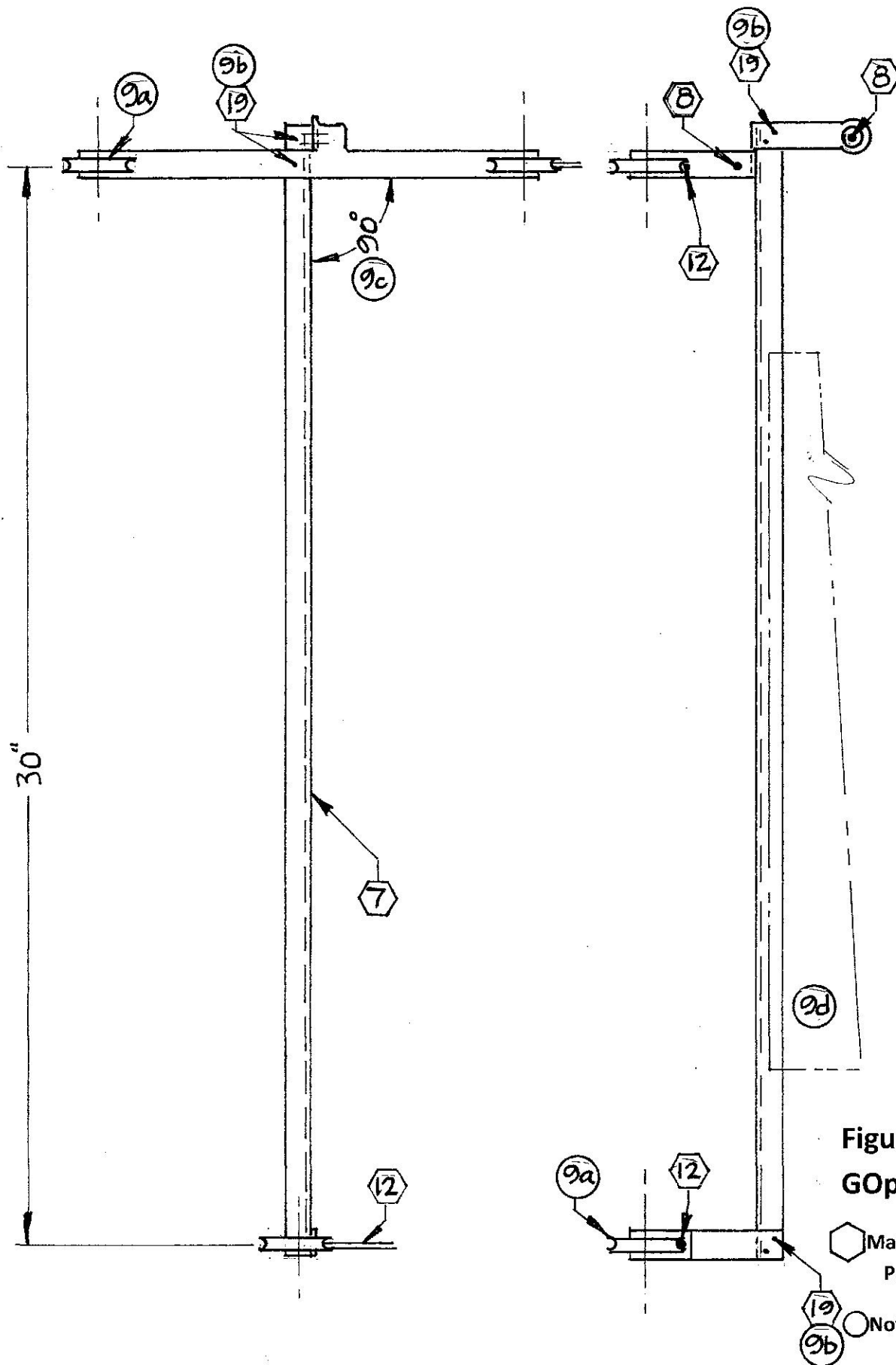


Figure 2- Elevation

Material Item – see Page 1

① Note – see Page 5 - 7



**Figure 3-
Gopher CART**

Material Items - see
Page 1

Note - see Page 6

GOPHER Xtreme - Installation Instructions

WARNING: THIS SYSTEM SHOULD ONLY BE UTILIZED ON A SHOOTING RANGE THAT MEETS ALL LOCAL, STATE AND FEDERAL REQUIREMENTS. THE FINAL INSTALLATION MUST BE INSTALLED AND INSPECTED TO MAINTAIN ALL OF THE SAFETY FEATURES OF THE RANGE.

1. Select desired location for shooter end 4 x 4 beam. Properly attached to your building structure to satisfy a horizontal reaction, toward the target end of the range, of 200 lb. per end of the 4 x 4 beam. Height of the Gopher runway is recommended to be 6'-10", although the final installed height should be selected to accomplish ease of changing targets and operation by the average user's height. Optional support can include (2) 4 x 4 posts set into the earth similar to the target-end posts shown in the figure on Page 1, with eyebolts, ratchet straps and earth anchors.
2. Select desired location for target end 4 x 4 posts and set in the earth. 12" diameter x 36" deep holes are recommended. Backfill and tamp with earth or concrete based on soil conditions. Treated lumber is recommended for all wood components.

Notes: Height and spacing of target end 4x4's should allow for mowing and/or other maintenance considerations. Gopher Target recommends posts be set no less than 4'-6" apart and no greater than 6'-6" apart; horizontal 4 x 4 to be elevated no less than 5 ft. above ground.

3. The distance between the Gopher Transmission and the target end of the shooting lane is recommended to be within 10 yds. and 100 yds., as determined by your range.
4. Attach the Gopher Transmission to the shooter-end beam 4 x 4 using 1-5/8" coated deck screws (not included). For easier installation, It is recommended that all preparation of shooter and target 4 x 4's be done before they are raised into final position. Drill a 1/2" diameter hole thru the 4 x 4 (using the alignment hole in the Transmission bracket) and install 1/2" eyebolt. It is recommended a drill press, or other means, be used to assure hole is square with the system. Measure over 30" and drill a second 1/2" hole for the other eyebolt. Place the 2nd eyebolt thru the 4x4, similar to the first, to provide the shooter-end tie-off points for the horizontal Gopher Cart runway. Raise and adequately secure the shooter 4 x 4 to the building structure, level and square. Use diagonal bracing as necessary. (see Figure on Page 1)
5. Attach the Gopher Return Pulley Bracket to the target end 4 x 4 using deck screws (not included). Pulley should face the shooter end as shown in figures. Align the eye lag center with the center groove of the return pulley and install on top of the horizontal 4x4. Install the 2nd eye lag, similar to first, 30" apart to establish the runway spacing (parallel to the shooter end eye lags). Install (2) 4" mooring cleats to the back side of the 4x4. (see Figure on Page 1)

6. Target Pulley height to be similar to the transmission drive pulley height, or as determined by field conditions. Raise 4 x 4 into position and attach to support posts with metal beam clips (not included), or install on back side of the 4 x 4 posts with lag or thru bolts (not included). Install diagonal bracing between 4 x 4 posts and 4 x 4 beam, as indicated.
7. Install (2) earth anchors directly behind the support posts at approximately 12 ft.
8. Install 5/16" x 4 1/2" eyebolts to the support posts at 8 ft. above the ground. Attach the Gopher guy straps between the eyebolts and the earth anchors, as indicated. Set ratchet straps with a slight tension - to be tightened after runway and tow cords are attached.
9. Assemble Gopher Cart as shown. (see Fig #3 on page 4)
 - a) Attach pulleys to hangers with 5/16" bolts.
 - b) Attach hangers to cross bar angle with self-tapping screws.
 - c) Square double pulley hanger with cross bar angle and set with top self-tapping screw.
 - d) Attached one or two target backer board(s) using bolts and wing nuts.
10. Tie off one end of the runway cord to the shooter end eyebolt. Extend cord down the range, wrap around the two (2) eye lags at the target end and return to the shooter end tying off the other end of the cord to the second shooter-end eyebolt. Pull out the slack cord at the target end to determine the center of the cord and cut to share the cord equally with both runway lengths. String runway cord through the Gopher Cart pulleys and the target eye lags, per the figure on Page 1, and hand tension the runway cords, tying them back to the mooring cleat. String the runway while the Gopher cart is located at the target end to simplify the process.
11. Pull tension on runway cord from behind the target end such that the Gopher Cart is raised to near final position, and tie off the cord to the mooring cleat using a cleat hitch knot. Cleat will facilitate final tensioning adjustment and future tensioning. Tension both runway cords to allow for the proper sag of the Gopher Cart, while it is located near the center of the runway (see Fig #2 and recommended runway sag schedule Pg. 7). If achieving the specified sag is too difficult by hand, it may be necessary to use cam-buckle straps (included with longer range systems) - which can be hooked between the target-end of runway cords (using a simple loop knot) and each earth anchor. Alternatively, a ratchet strap (not included) may also be used in lieu of the cam-buckle strap. When tensioning with straps, the mooring cleats are not used in the final tensioning step.

12. String one end of the Gopher tow cord thru the eyelet on the Gopher Cart, loop around the Transmission drive pulley and tie off through the front holes on the Gopher Cart. Extend the other end of the tow cord around the target-end pulley and extend back to the opposite end of the Gopher Cart (see Fig #2). To attach the tensioning-end of the tow cord to the Gopher Cart; string up thru the bottom horizontal hole first, then through the hole in the vertical pulley-leg, and pull excess cord through to tighten the tow cord.

13. Tow cord tensioning is accomplished by pulling and stretching the cord to achieve the desired tension, which may be several yards depending on the total length of your runway. An acceptable tension will result in a tow cord sag of 6" to 12" or more.

Caution: Extreme tensioning beyond the recommended sag will put an additional load on the transmission and may make the manual cranking operation more difficult.

14. After tensioning of the tow cord is complete; loop the excess tow cord on the Gopher Cart cleat hooks, and tie off using a cleat hitch knot. Be sure to stow sufficient cord to facilitate future re-stringing as well as periodic tow cord adjustments.

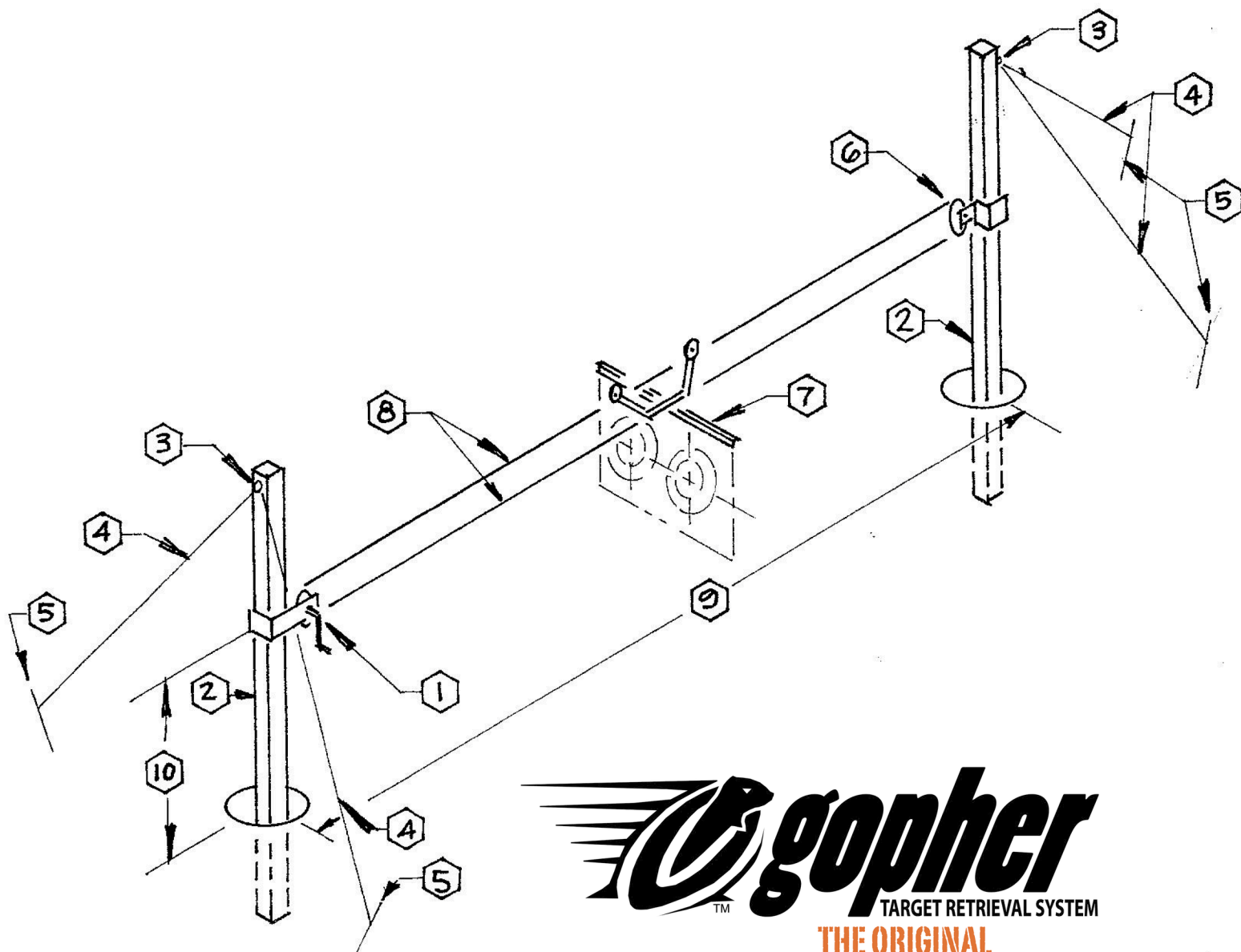
15. After installing the tow cord, it may be necessary to re-tension the runway cords to level the Gopher Cart.

16. Recommended Runway Sag Schedule: (See Note 11.)

- a) 10 yd. to 25 yd. - 6 inches sag
- b) 50 yd. - 12 inches sag
- c) 100 yd. - 24 inches sag

17. Now you're ready to enjoy the safety and convenience of your Target Retrieval System.

Note: You may experience some initial stiffness in the operation of your Gopher Transmission. This is a result of the internal planetary gear set "breaking in" and will loosen up with use.



POST TO POST CONFIGURATION

1	Gopher Gearhead – anchor to wood 4x4
2	Wood 4x4 – set in earth (30" – 36" recommended)
3	Eyebolt – Set approx. 8 ft. above grade
4	Guy Straps – (recommend 35 – 40-degree angle with ground)
5	Earth Stakes – (choice may vary with site earth conditions)
6	Gopher Return Pulley – anchor to wood 4x4
7	Gopher Target Shuttle
8	Gopher Shuttle Tow Cord
9	Runway length varies – (recommend 5 yd. – 50 yd.)
10	Runway height varies – (recommend 4 ft. – 6 ft.)
11	
12	
13	

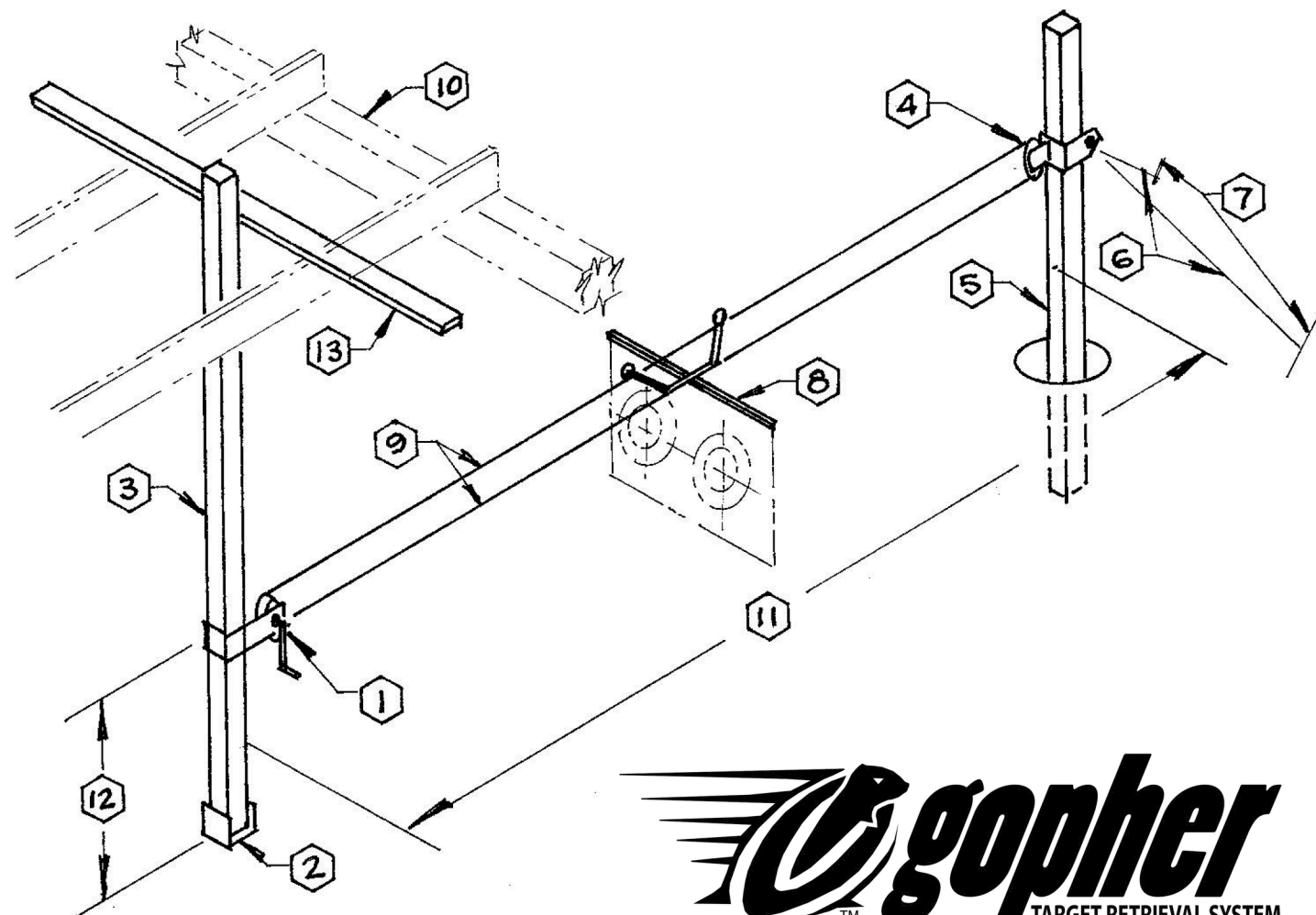
Item 2, provided by Owner. Owner provided materials available through a local building supply house.

GOPHER ORIGINAL POST TO POST CONFIGURATION

Installation Instructions

WARNING: THIS SYSTEM SHOULD ONLY BE UTILIZED ON A SHOOTING RANGE THAT MEETS ALL LOCAL, STATE AND FEDERAL REQUIREMENTS. THE FINAL INSTALLATION MUST BE INSTALLED AND INSPECTED TO MAINTAIN ALL OF THE SAFETY FEATURES OF THE RANGE.

1. Select desired locations for shooter end and target end 4 x 4's and set in earth. Gopher recommends a 12" dia. hole 30" - 36" deep. Backfill and tamp with earth or concrete, owner preference. Note: Treated lumber is recommended for all wood components.
2. The distance between the Gopher Gearhead and the target end of the shooting lane is recommended to be within 5 yds. and 50 yds., as selected by the owner.
3. Attach Gopher Gearhead to shooter 4 x 4 with deck screws. Gopher recommends the height to Gearhead center to be between 4 ft. and 6 ft. above the ground. Height as determined by the most comfortable operating height or the desired height of the target.
4. Attach Gopher Return Pulley Bracket to the target end 4 x 4 using deck screws. Pulley height to match the Gearhead height, or as determined by field conditions.
5. Install earth anchors (4) at approximately 30 deg. Left and right of shooting lane centerline. Set behind the shooter post and target post by approximately 10 ft.
6. Attach the Gopher guy straps between the post eyebolts and the earth anchors. Set guy straps with a slight tension. (To be snugged up later, if required, after tow cord is attached.)
7. String Gopher tow cord through Target Shuttle pulleys from the front to back and on to return pulley location. Extend tow cord through return pulley, top to bottom, as shown. Secure this end of the cord to the bottom of the Shuttle, as shown. String the other end of the cord around the Gearhead pulley and return to the front end of the Shuttle.
8. Tow cord tensioning is accomplished by running the final end of the cord up through the first hole in the front of the Shuttle bracket and pulling through taking up the slack cord. It will require several arm lengths of pulling to achieve the desired tension, depending on length of runway chosen. After tensioning is complete, tie off cord to Shuttle. For a 50-yd. runway, the proper tension will result in a 1 ft. to 2 ft. sag of the target at the mid-point of the runway. For shorter runways, less sag is permissible. It is easier to set the tension if the Shuttle is located at the shooter end or the target end of the runway vs. in the middle, then test the sag by positioning the shuttle in the center of the runway. **Caution:** Extreme tensioning beyond Gopher recommendations will stiffen the operation of the Gearhead and may damage the Gearhead Pulley.



CANOPY TO POST CONFIGURATION

1	Gopher Gearhead – anchor to wood 4x4
2	Metal base plate – anchor to concrete
3	Wood 4x4 – anchor to base plate & building structure
4	Gopher Return Pulley – anchor to wood 4x4
5	Wood 4x4 – set in earth (30" – 36" recommended)
6	Guy Straps – (recommend 35 – 40-degree angle with ground)
7	Earth Stakes – (choice may vary with site earth conditions)
8	Gopher Target Shuttle
9	Gopher Shuttle Tow Cord
10	Owners building roof structure
11	Runway length varies – (recommend 5 yd. – 50 yd.)
12	Runway height varies – (recommend 4 ft. – 6 ft.)
13	Wood 2x4 brace for head of 4x4, as shown or per field conditions.

Items 2,3,5,10 and 13 provided by others. All material as available through a local building supply house.

GOPHER ORIGINAL CANOPY TO POST CONFIGURATION

Installation Instructions

WARNING: THIS SYSTEM SHOULD ONLY BE UTILIZED ON A SHOOTING RANGE THAT MEETS ALL LOCAL, STATE AND FEDERAL REQUIREMENTS. THE FINAL INSTALLATION MUST BE INSTALLED AND INSPECTED TO MAINTAIN ALL OF THE SAFETY FEATURES OF THE RANGE.

1. Select desired location for shooter end 4 x 4. Anchor metal base plate to concrete floor and attach 4 x 4. Extend head of 4 x 4 into roof structure, brace off and attach plumb.
2. Select desired location for target end 4 x 4 and set in earth. Gopher recommends a 12" dia. hole 30" - 36" deep. Backfill and tamp with earth or concrete, owner preference. Note: Treated lumber is recommended for all wood components.
3. The distance between the Gopher Gearhead and the target end of the shooting lane is recommended to be within 5 yds. and 50 yds., as selected by the owner.
4. Attach Gopher Gearhead to shooter 4 x 4 with deck screws. Gopher recommends the height to Gearhead center to be between 4 ft. and 6 ft. above the ground. Height as determined by the most comfortable operating height or the desired height of the target.
5. Attach Gopher Return Pulley Bracket to the target end 4 x 4 using deck screws. Pulley height to match the Gearhead height, or as determined by field conditions.
6. Install earth anchors (2) at approximately 30 deg. Left and right of shooting lane centerline. Set behind the target post by approximately 1.25x the height of the Gopher Return Pulley.
7. Attach the Gopher guy straps between the Gopher Return Pulley and the earth anchors. Set guy straps with a slight tension. (To be snugged up later, if required, after tow cord is attached.)
8. String Gopher tow cord through Target Shuttle pulleys from the front to back and on to return pulley location. Extend tow cord through return pulley, top to bottom, as shown. Secure this end of the cord to the bottom of the Shuttle, as shown. String the other end of the cord around the Gearhead pulley and return to the front end of the Shuttle.
9. Tow cord tensioning is accomplished by running the final end of the cord up through the first hole in the front of the Shuttle bracket and pulling through taking up the slack cord. It will require several arm lengths of pulling to achieve the desired tension, depending on length of runway chosen. After tensioning is complete, tie off cord to Shuttle. For a 50-yd. runway, the proper tension will result in a 1 ft. to 2 ft. sag of the target at the mid-point of the runway. For shorter runways, less sag is permissible. It is easier to set the tension if the Shuttle is located at the shooter end or the target end of the runway vs. in the middle. **Caution:** Extreme tensioning beyond Gopher recommendations will stiffen the operation of the Gearhead and may damage the Gearhead Pulley.

Standard 1-Year Limited Warranty

Our warranty to you: Gopher Targets LLC (Gopher) warrants your product to be free from physical defects in material and workmanship for a period of 1 year from the date of the original retail purchase. If you discover a defect covered by this warranty, we will repair or replace the product at our option using new or refurbished components.

Product failures not covered by this warranty: This warranty covers defects in manufacturing that arise from the correct use of the device. It is limited to defects in materials or workmanship and does not cover damage caused by abuse, misuse, unauthorized modification, ballistic damage, commercial use, extreme heat or cold and corrosive environments.

Limits of liability: If these products fail or do not perform as warranted, your sole recourse shall be to repair the product as described above. We will not be liable to you or anyone else for any damages that result from the failure of this product. These damages include, but are not limited to, the following: lost profits, lost savings, damage to other equipment, and incidental or consequential damages arising from the use of or inability to use this product. Express or implied warranties are disclaimed. IN

NO EVENT WILL GOPHER BE LIABLE FOR MORE THAN THE AMOUNT OF YOUR PURCHASE PRICE, NOT TO EXCEED THE CURRENT LIST PRICE OF THE PRODUCT.

Gopher specifically disclaims all other warranties, expressed or implied, and the user shall deem the installation or use of this product an acceptance of these terms.

How to obtain service under this warranty: Return authorization is required for all product returns. If you believe you have a warranty issue, send an e-mail that includes your contact information and describe the issue to warranty@gophertargets.com

Once Gopher verifies you have a warranted issue, you will be contacted with a return authorization number for your product. Return the defective unit or component (if approved) to Gopher in order to obtain service under this warranty. A sales receipt will be required to verify the original retail purchase. All returned units must have the return authorization number visible on the outside of the shipping package. You must pack the unit securely to avoid damage during shipping. Return Authorizations are valid for 30 days after the number is issued. Ship your product pre-paid to Gopher at the following address: Gopher Targets LLC • 5634 Lewisburg Ozias Road • Lewisburg, Ohio 45338 • USA

Gopher will pay the return shipping costs for products under warranty. Gopher is not responsible for the cost of shipping to Gopher or the payment of any customs clearance fees or duties.