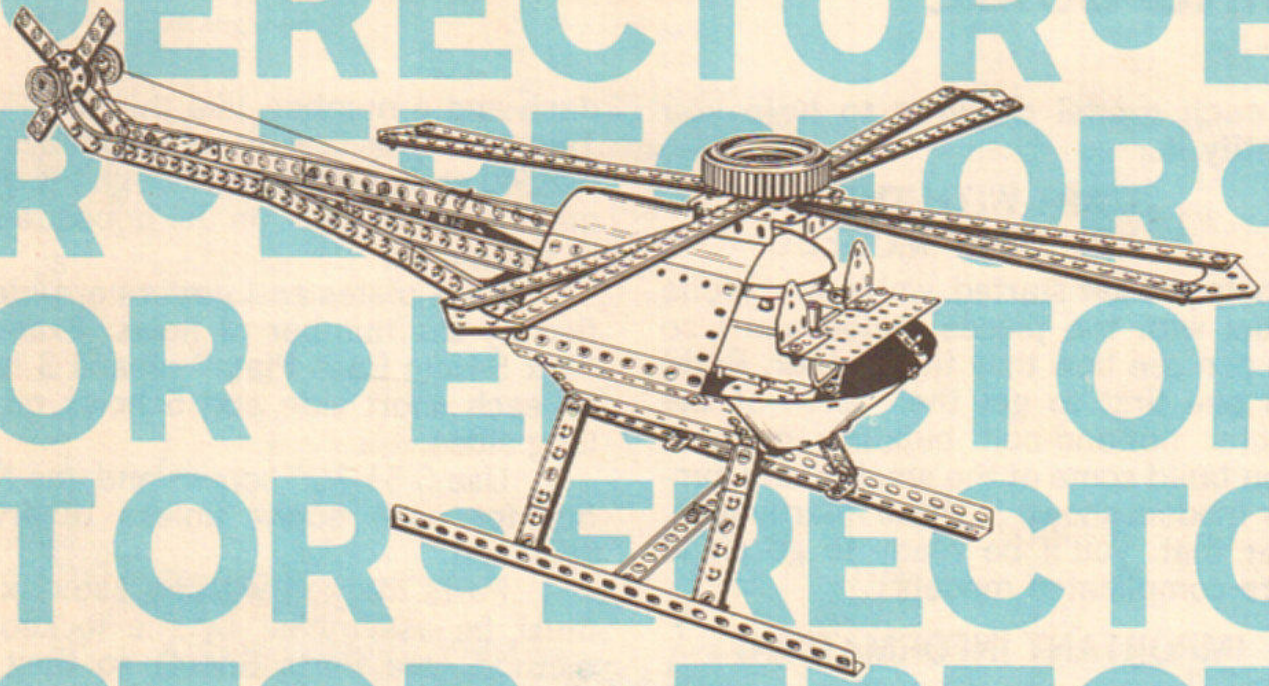


GILBERT® ERECTOR® INSTRUCTION BOOK

YOUR MODEL-BUILDING GUIDE

You can build all the models pictured... but these are meant to be just starting suggestions. You'll soon be making improvements and variations—even constructing entirely new models of your own design. With Erector, your imagination is the only limit. That's what makes Erector the most versatile construction set ever invented!

LEARN THE PARTS FIRST

Spread them all out on the table or floor. Study and identify each part, using the Parts Sheet. You will note that each part pictured has a number or letter, and a name. This number or letter appears on each model drawing to help you identify it.

START WITH THE "EXPLODED" MODEL

To help you get started, we've shown one model with the pieces pulled apart so you can see how they fit together. Build this one first to get the "feel" of the Erector nut-and-bolt building method. Then build some of the smaller and simpler models shown in these instructions. After that, you'll be ready to go on to more complicated models.

IMPORTANT INFORMATION!

You'll see that all model drawings have "call-outs" identifying each part by letter or number. Some are followed by a dash and a number, like this: P-7—(2). This tells you that two P-7 pulleys are needed at that position, though the other may be out of sight on the opposite side of the model.

Base plates and girders are identified by the number of holes. Example: "3 x 5-Hole Base Plate" means 3 holes on each short side and 5 holes on the long sides.

Use S-51 ¼" screws and one N-21 nut for each screw unless otherwise specified.

Parts marked with an asterisk (*) must be assembled by the locked-nut method (see Parts Sheet) so they will swivel freely.

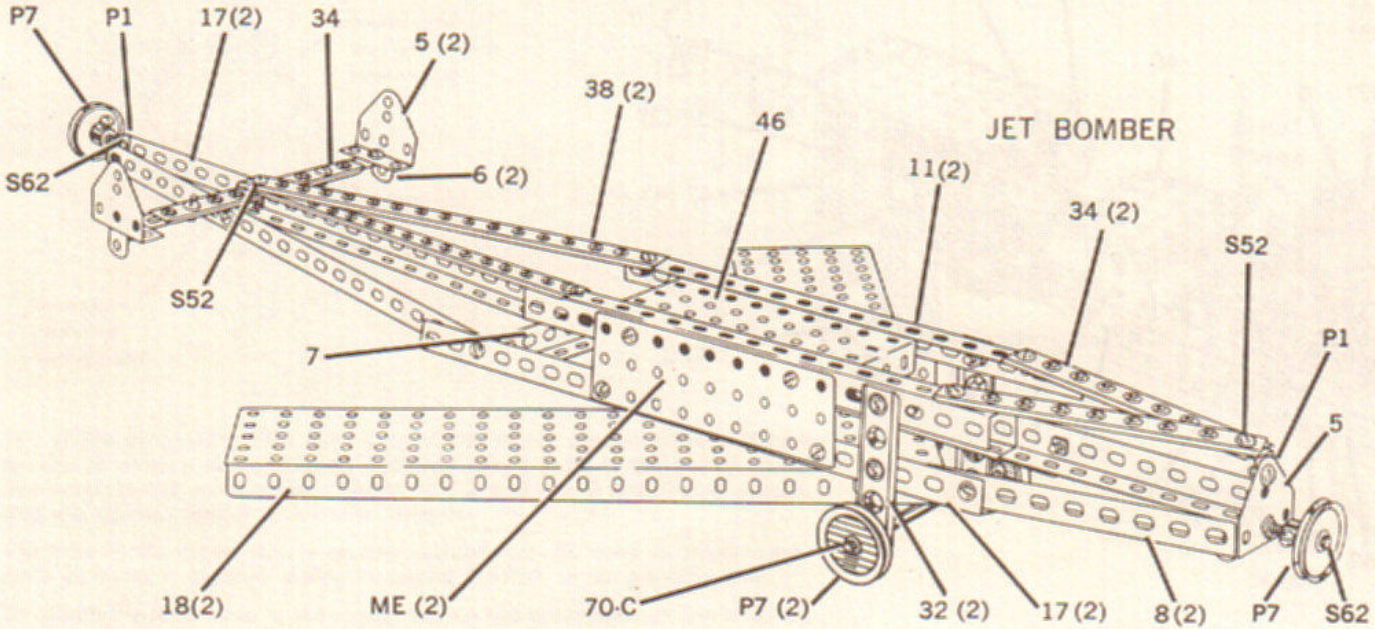
GILBERT DIVISION, GABRIEL INDUSTRIES INC. LANCASTER, PA.

PART NO.	PART NAME
1	2½" wheel
3	2½" dia. plate
4	3x3 hole corner plate
5	Car track
6	Long double angle
7	5 hole angle girder
8	9 hole angle girder
11	17 hole angle girder
15	5x9 flat plate
17	21 hole angle girder
18	5x21 hole base plate
28	135° 7 hole strip
32	5 hole girder
34	9 hole girder
38	17 hole girder
45	5x5 hole base plate

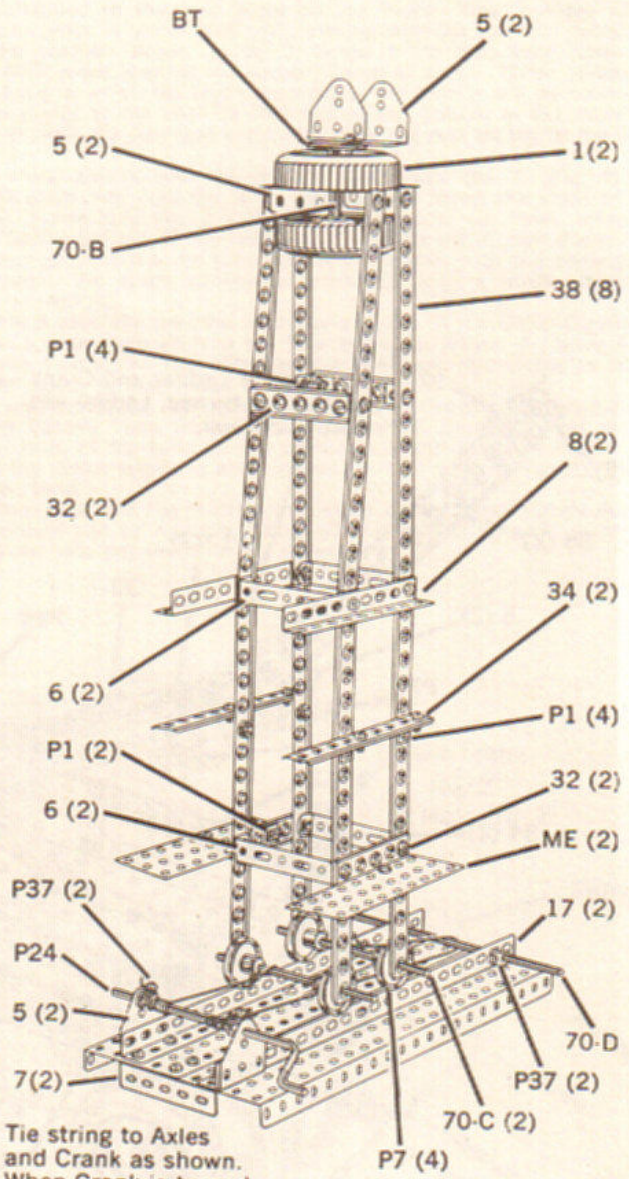
PART NO.	PART NAME
46	5x9 hole base plate
47	5 hole circular girder
48	9 hole circular girder
70-A	2⅛" axle
70-B	2⅞" axle
70-C	4" axle
70-D	6" axle
70-E	7" axle
74	28T sprocket
75	14T sprocket
76	chain
827	Single sheave
AF	Hook
AQ	Sheave pulley
BT	Pierced disc
G	7 hole strip

PART NO.	PART NAME
ME	3x9 hole flat plate
NJ	Battery holder
O	Pawl
P1	Angle
P7	Pulley
P15	Coupling
P24	Crank
P37	Collar
N21	Nut
S51	¼" screw
S52	½" screw
S62	⅞" screw
	Motor Kit

JET BOMBER

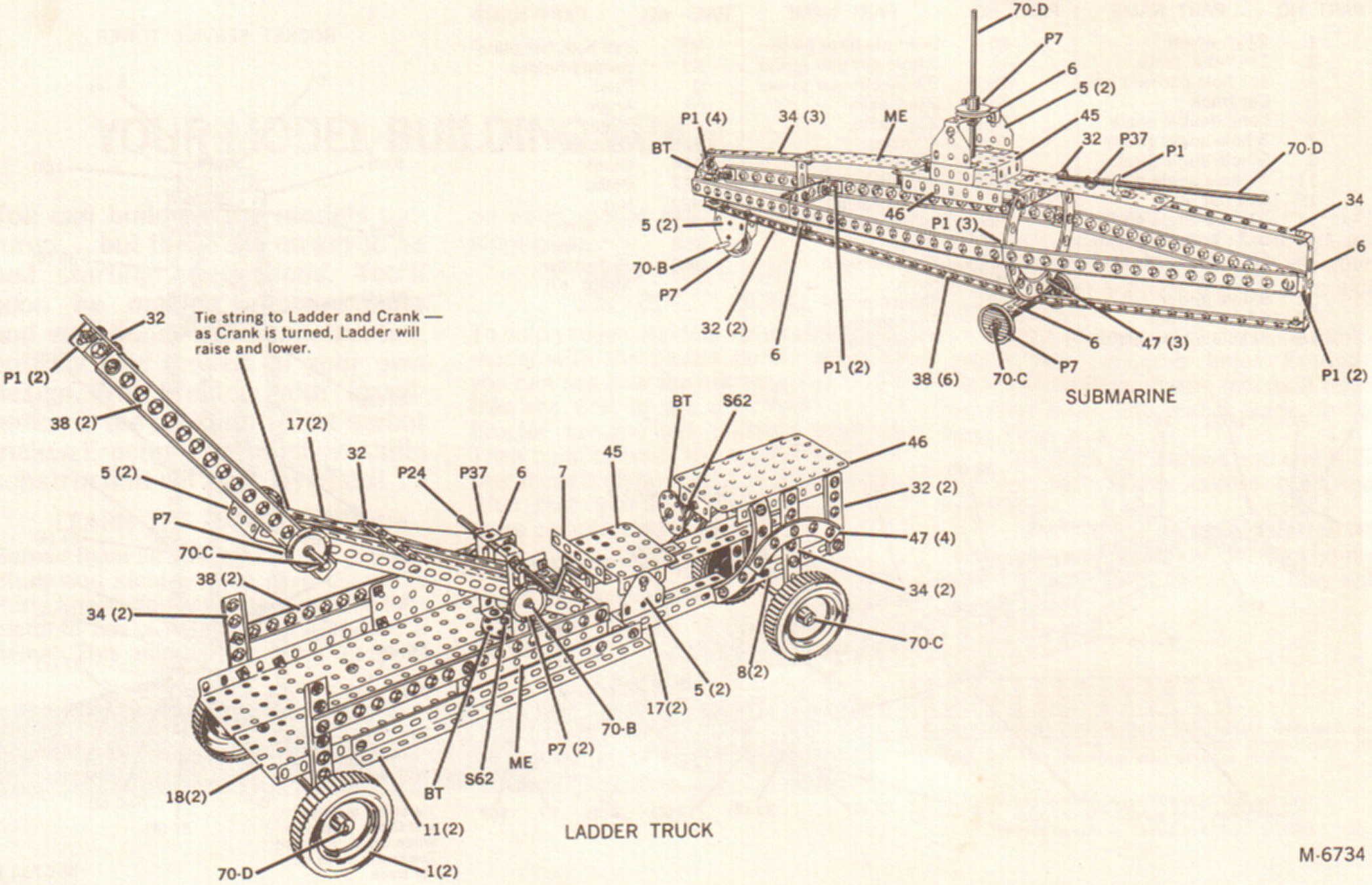


ROCKET SERVICE TOWER



Tie string to Axles and Crank as shown. When Crank is turned Tower will move on the track.

M-6734 M


70-D
P7
6
5 (2)
45
32
P37
P1
70-D
34
6
P1 (4)
34 (3)
ME
BT
5 (2)
70-B
P7
32 (2)
6
P1 (2)
46
P1 (3)
38 (6)
70-C
P7
6
47 (3)
P1 (2)
SUBMARINE
Tie string to Ladder and Crank — as Crank is turned, Ladder will raise and lower.
32
P1 (2)
38 (2)
17(2)
32
5 (2)
P24
P37
6
7
45
BT
S62
46
32 (2)
P7
70-C
47 (4)
38 (2)
34 (2)
34 (2)
70-C
8(2)
5 (2)
17(2)
70-B
P7 (2)
ME
S62
BT
18(2)
11(2)
70-D
1(2)
LADDER TRUCK
M-6734 M

GILBERT 3-VOLT POWERMATIC MOTOR

The motor in your set is packed in kit form. Figure 1 shows the motor completely assembled. Figure 4 shows how to assemble it. This powerful motor operates on 3 volts D.C. only. This means two "D" size flashlight batteries. When batteries are used they should be placed in the battery holders in opposite directions — the center terminal of one should be toward the clip of one battery holder and the bottom of the other toward the clip of the other battery holder.

If your set has a No. 125 Battery Case, follow the instructions for battery arrangement found inside the case.

The two battery holders must be connected together by some metal part of the model in order to complete the circuit and make the motor run.

You can reverse the direction of the motor by reversing the batteries in the holders. In some models the wires from the motor are connected to metal parts such as (G) seven hole strips. When these strips touch the battery holder clips, the motor will operate. If the strips are reversed, the direction of the motor will change.

With the No. 125 Battery Case, simply use the reversing switch.

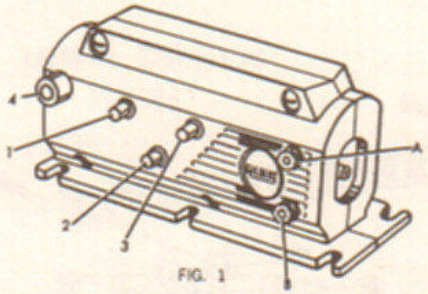


FIG. 1

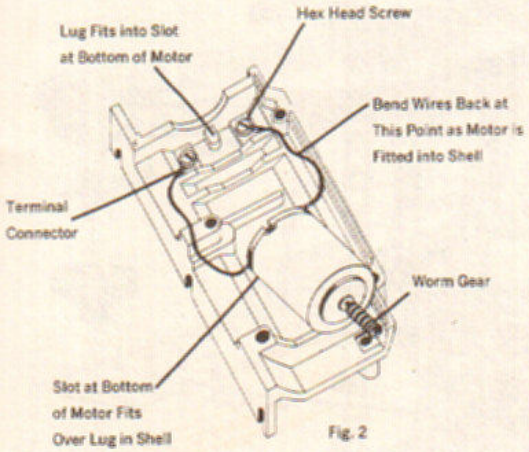


Fig. 2

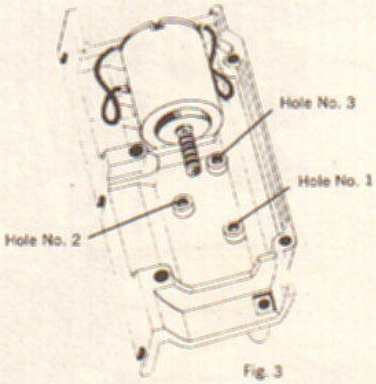


Fig. 3

The shafts protruding from each side of the motor provide three different speeds at which a model may be operated. No. 1 shaft is the lowest speed but provides the most power. Shafts No. 2 and No. 3 are higher speeds and will operate lighter or low-load models.

The hole in the sides (No. 4 on the picture) can be used in many ways, such as a motor support, a side mounting method, or for an extra axle.

To attach the lead wires to the motor, loosen the outer nuts on the terminal screw A and B, hook the bare end of a wire over each screw, and retighten the nuts. The wire should now be clamped between the nuts on each screw. When the other ends of the wire are connected to your power source, the motor is ready to go.

ASSEMBLY INSTRUCTIONS

1. Remove tape holding motor shells together and separate the shells. Next insert the hex head brass screws through the holes in the terminal connectors attached to the lead wires on the motor. Now run the screws through the holes in motor shell "A", making sure the terminal connectors are in the position shown in Fig. 2. Screw a nut onto each screw and tighten. Now place another nut loosely on each screw. These screws are the terminals to which the wires from the power source will be connected.
2. Place the motor in the shell so that slot in the Bottom of the motor fits over lug in shell. Be sure that the motor does not rest on top of the wires, see Fig. 3.
3. Slip the metal sleeve over the shaft of Gear Train No. 3, (Fig. 4) then insert the shaft into hole No. 3 in shell A. Now insert the shaft of Gear Train No. 1 into hole No. 1 with the metal spacer up. Next, insert the shaft of Gear Train No. 2 into hole No. 2 with the small gear down.
4. Check each gear train to be sure each gear meshes with the other gears. At this point, the gears should be lubricated with a small amount of vaseline or light oil.
5. Place Shell B carefully over the shafts and gently fit the shells together.
6. Assemble a screw into each of the four holes, as shown in Figure 4 and fasten with four nuts. The holes in one shell are hex shape to fit the nuts. The motor is now ready to operate.
7. Connect one end of the lead wires to the clips on the N.J. Battery Holders, or on the Battery Case, whichever is standard in your set. Next connect the other ends of the wires to the terminals A and B of the motors, see Fig. 1. If the motor seems to bind, loosen the four screws (Fig. 4), slightly to free the bind.
8. If the worm gear and the metal worm wheel do not mesh tightly enough, an adjustment can be made by filing off the "adjusting pad" which has been molded into the shell for this purpose.

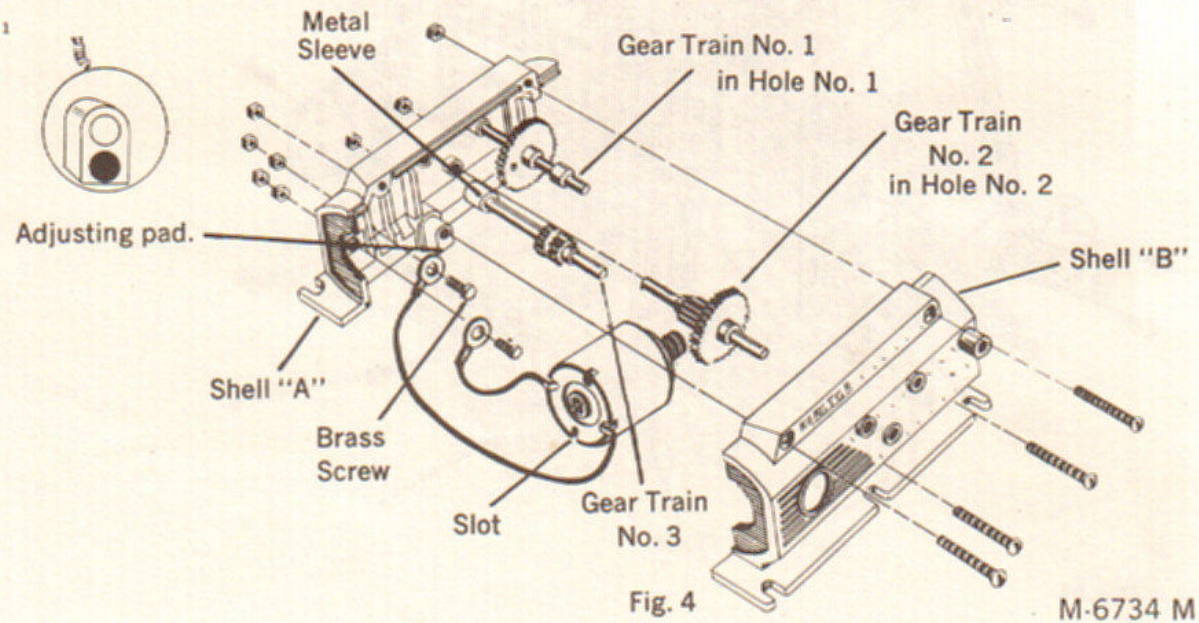
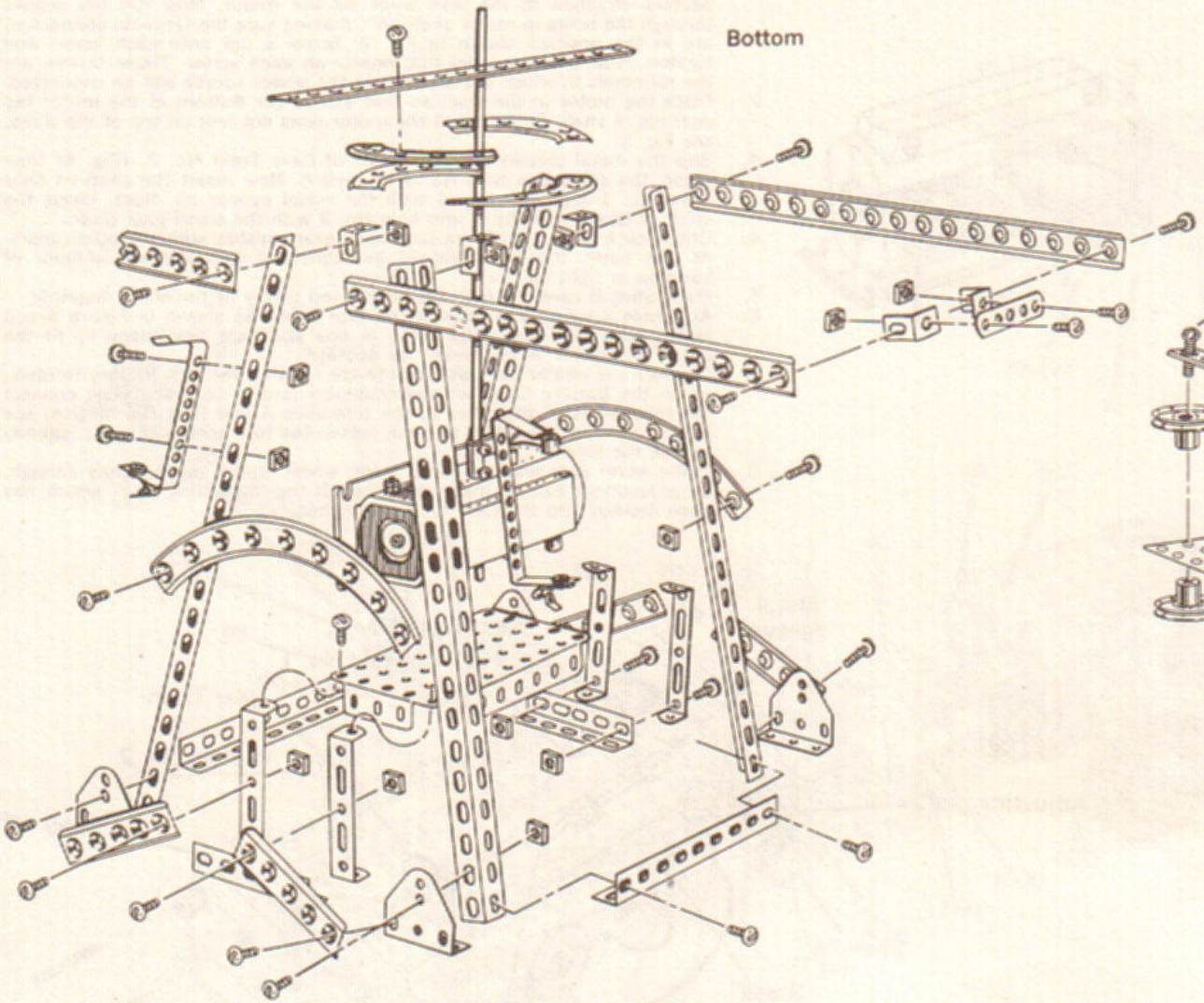
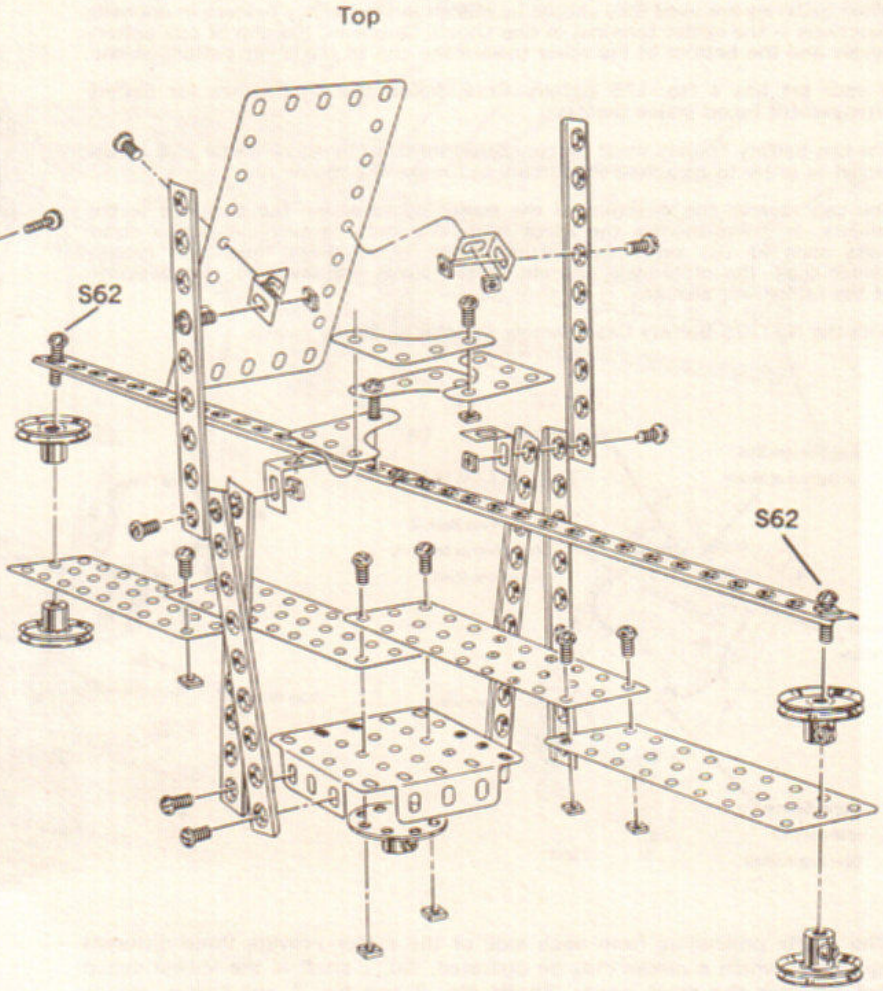


Fig. 4

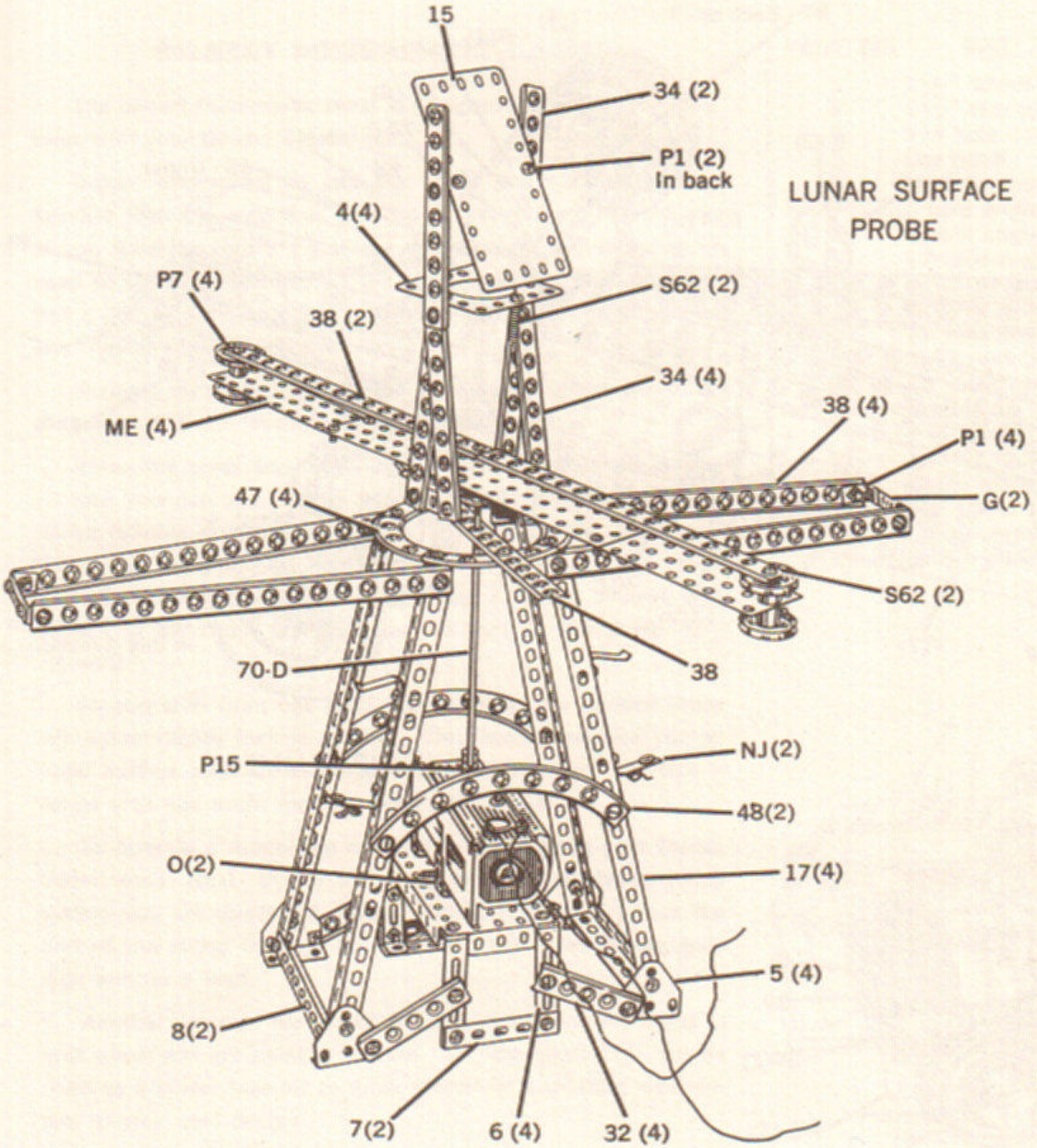
M-6734 M

LUNAR SURFACE PROBE
EXPLODED VIEWS

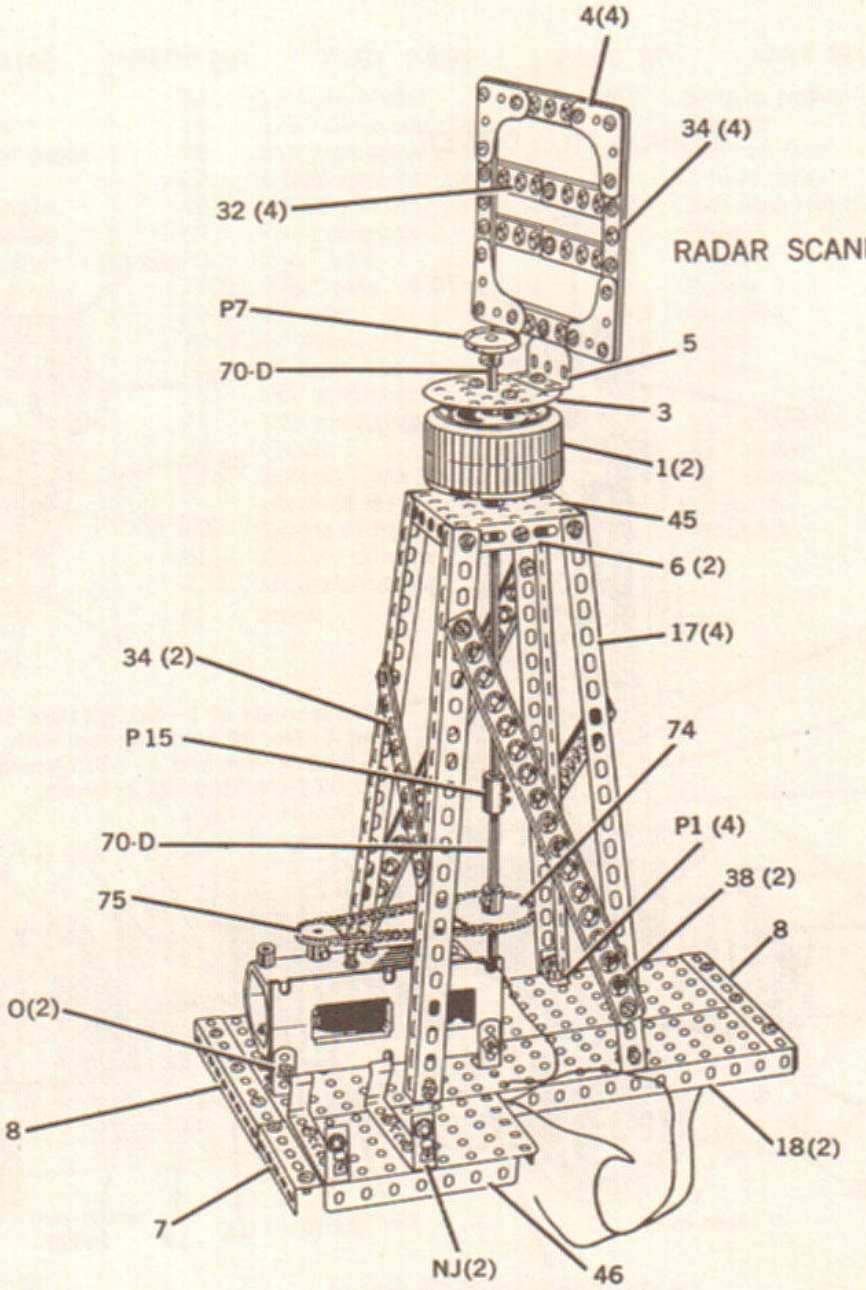




M-6734 M



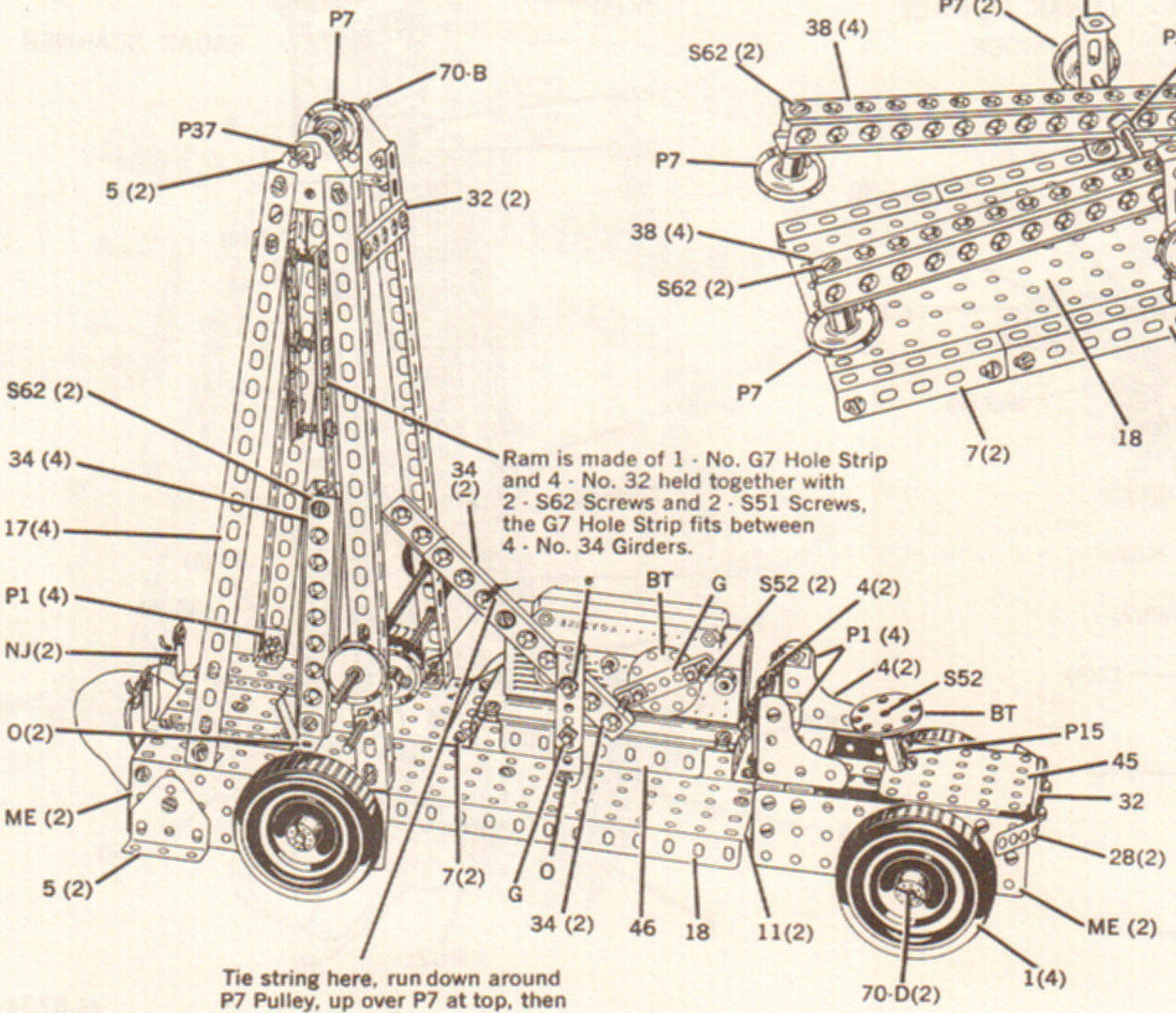
LUNAR SURFACE PROBE

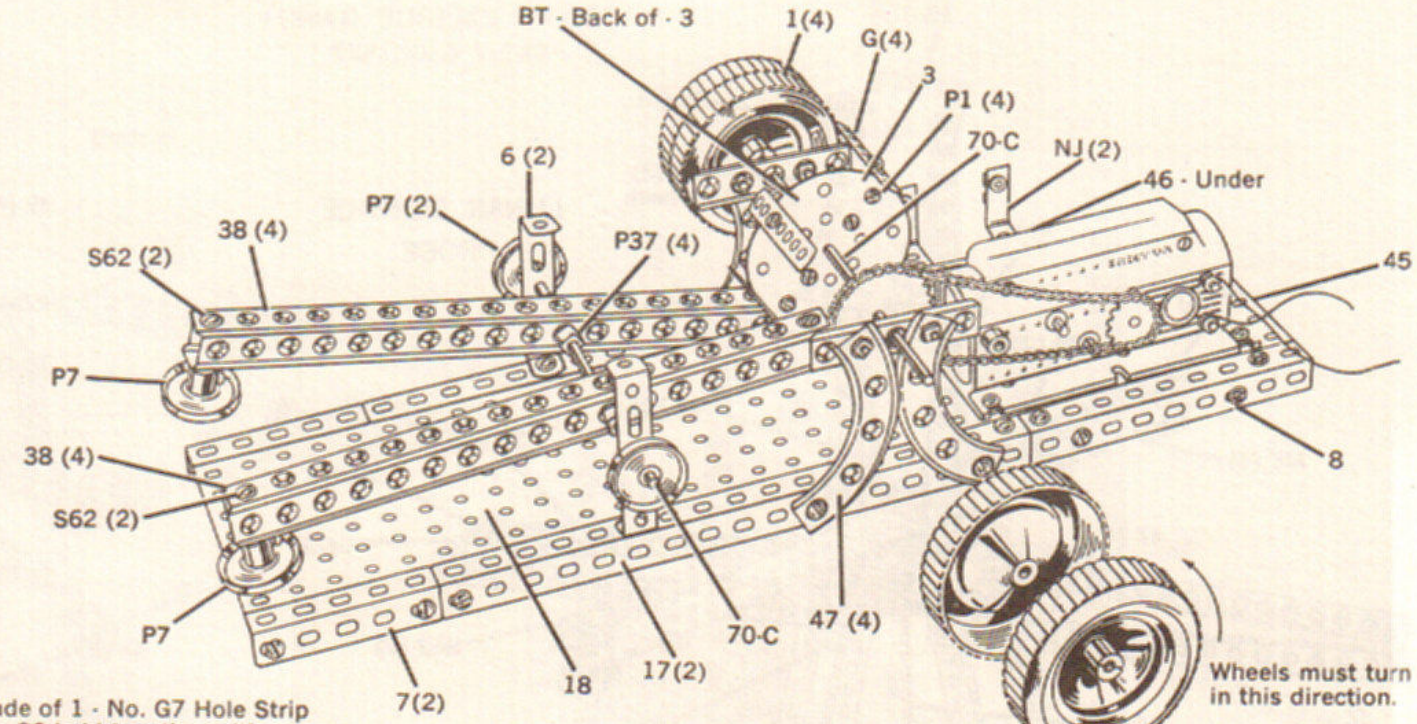


RADAR SCANNER

M-6734 M

MOBILE PILE DRIVER





TRIP HAMMER

M-6734 M

GILBERT POWERMATIC HOIST

The Gilbert Powermatic Hoist is designed to be used in many ways with your Gilbert Erector set.

Before attempting to use the Hoist you should become familiar with the way it is coupled to the Gilbert Powermatic Motor. Refer to Figure 1 you will note that an 878 coupling is used to couple the shafts of the units together. This coupling has a "D" shaped hole which fits on the flat end of the drive shafts of the motor and the Hoist.

It needs no screws and should be installed before the units are secured to the model you are building.

When the hoist and motor are in position, start the motor so that you can see exactly what the hoist will do. With the motor running, move the shift lever "F" through the three positions. You will find that when the lever is at No. 1, the drum "A" will rotate. When it is at position No. 2, it is in neutral, and at No. 3, the drum "B" will turn as well as the shaft "C" Figure 2

As you shift from one drum to the other, the unused drum will automatically lock in position. This feature enables you to build models such as derricks, where you will wish to raise a boom with one drum and the hook with the other.

To operate a model, tie a string to the moving part (hook, boom, etc.). Next, thread the string through whatever pulley system you are using and, FROM INSIDE THE DRUM, pass the end of the string through one of the small holes in the gear side and tie a knot.

Another valuable feature of the Gilbert Powermatic Hoist is that when you are using the drum "B," the shaft "C" can be used as a power take-off to drive wheels or a rotating mechanism of your own design.

By reversing the motor, all functions of the hoist will reverse also.

PART NO.	PART NAME
1	2½" wheel
3	2½" dia. plate
4	3x3 hole corner plate
5	Car track
6	Long double angle
7	5 hole angle girder
8	9 hole angle girder
11	17 hole angle girder
14	5x5 hole flat plate
15	5x9 flat plate
17	21 hole angle girder
18	5x21 hole base plate
19	45° strip
24	Double 45° strip
25-B	2½" dome (yellow)
28	135° 7 hole strip
30	Boiler plate
31	90° cone
32	5 hole girder
34	9 hole girder

PART NO.	PART NAME
38	17 hole girder
45	5x5 hole base plate
46	5x9 hole base plate
47	5 hole circular girder
48	9 hole circular girder
49	Flat car truck
70-A	2⅛" axle
70-B	2⅞" axle
70-C	4" axle
70-D	6" axle
70-E	7" axle
74	28T sprocket
75	14T sprocket
76	Chain
125	Battery case - use in place of NJ
827	Single sheave
827	Double sheave
878	Motor coupling
AF	Hook

PART NO.	PART NAME
AQ	Sheave pulley
BL	Washer
BT	Pierced disc
G	7 hole strip
ME	3x9 hole flat plate
O	Pawl
P1	Angle
P7	Pulley
P15	Coupling
P24	Crank
P37	Collar
N21	Nut
S51	¼" screw
S52	½" screw
S62	⅞" screw
69	Motor kit
95	Hoist kit

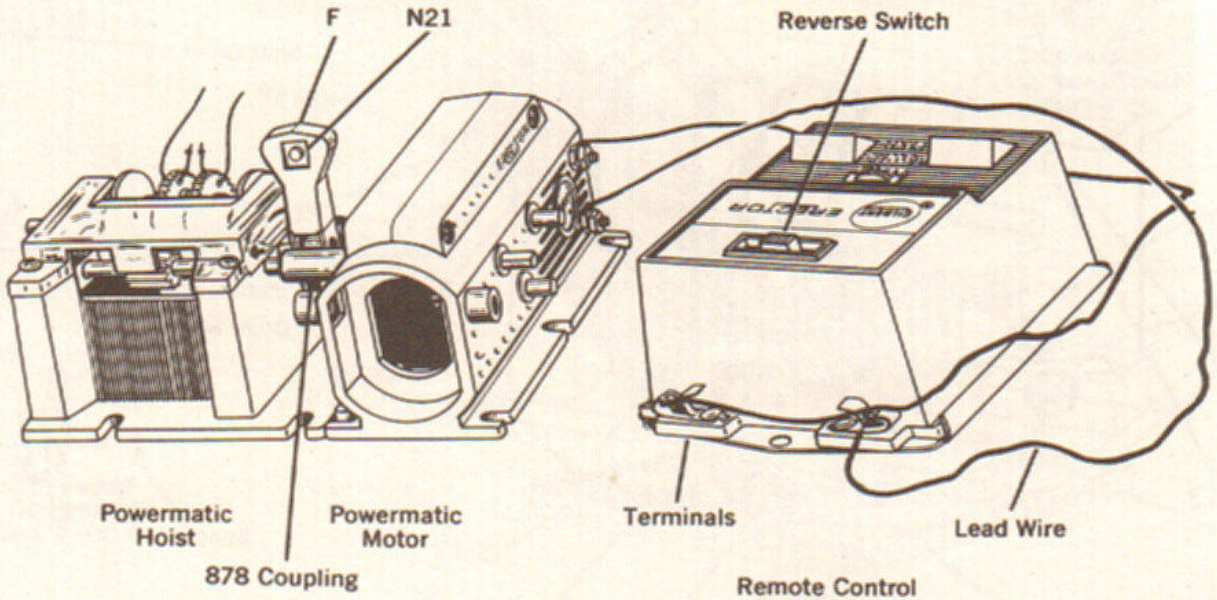


FIG. 1

M-6735 M

ASSEMBLING INSTRUCTIONS

When you unpack the power matic hoist, you will find that it has been partially pre-assembled, however, some slight adjustment will have to be made as follows:

1. Remove small bag of parts under gears.
2. Grasp and lift shift lever, forcing the cover up, just enough to allow lever shaft to fit into slot in base as shown in Fig. 3. Care must be exercised in lifting cover to avoid breaking.
3. Place lever bracket in place and secure with two, slotted head, P.K. screws (small screws that look like wood screws) Fig. 3.
4. Complete fastening of cover to base using two, slotted head, P.K. screws, Fig. 2.
5. Assemble lever knob to shift lever and fasten with nut and screw, Fig. 3. The hoist is now ready to operate as already explained.

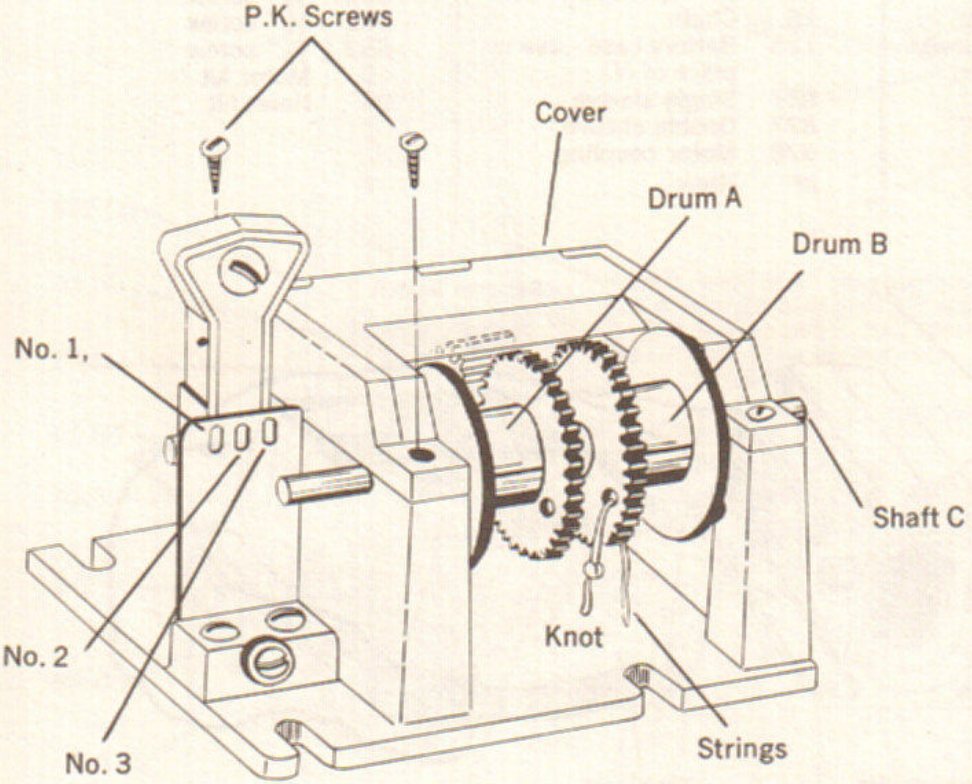


Fig. 2

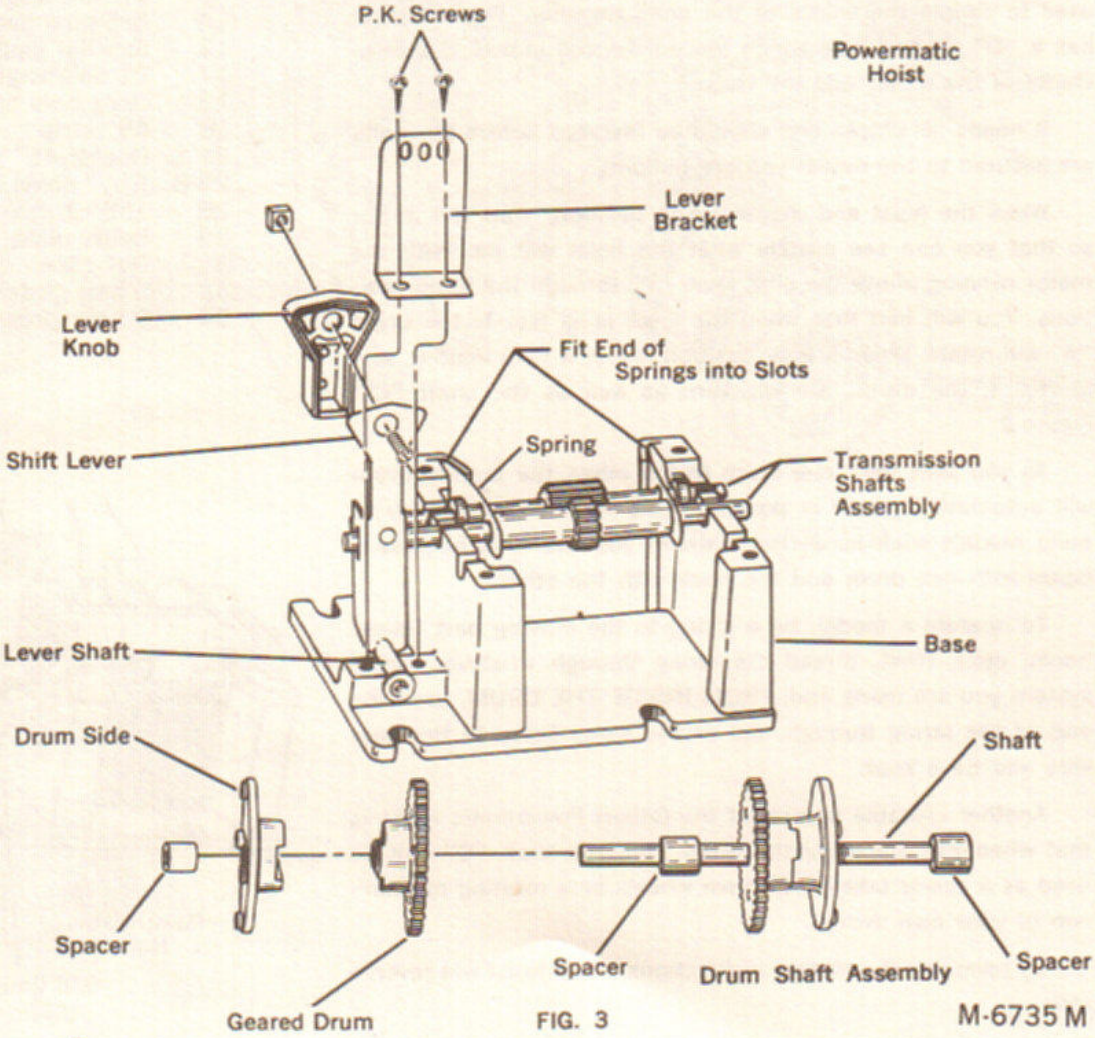


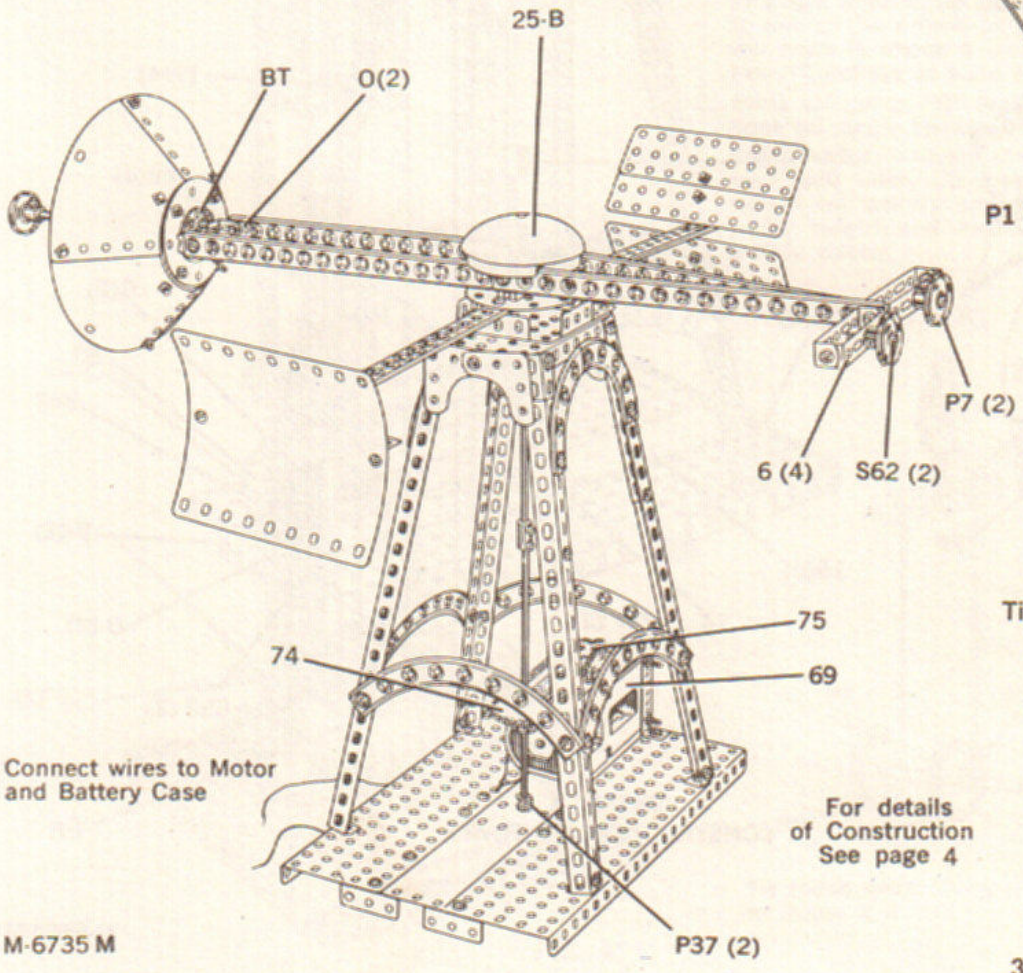
FIG. 3

M-6735 M

LUNAR TRANSMITTER

NOTE — This could be the type of instrument which, when landed on the moon, will send back to Earth the information gathered by its rotating probing antenna.

The antenna rotates on the two 70-D axles which run down through the holes in the (14) flat plate. To hold the axle in place use two P37 Collars — one on each side of the plates.



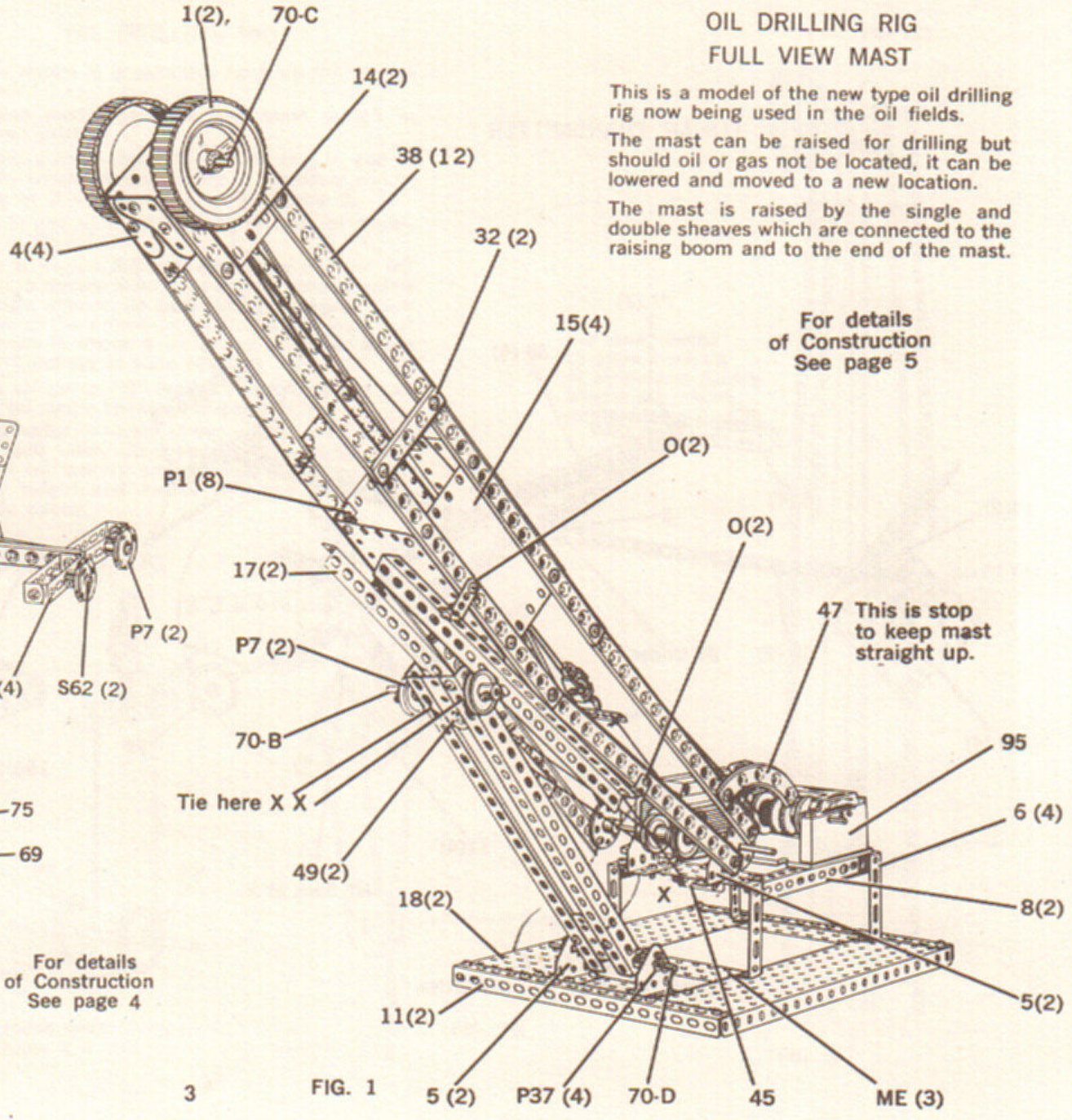
For details of Construction See page 4

OIL DRILLING RIG
FULL VIEW MAST

This is a model of the new type oil drilling rig now being used in the oil fields.

The mast can be raised for drilling but should oil or gas not be located, it can be lowered and moved to a new location.

The mast is raised by the single and double sheaves which are connected to the raising boom and to the end of the mast.

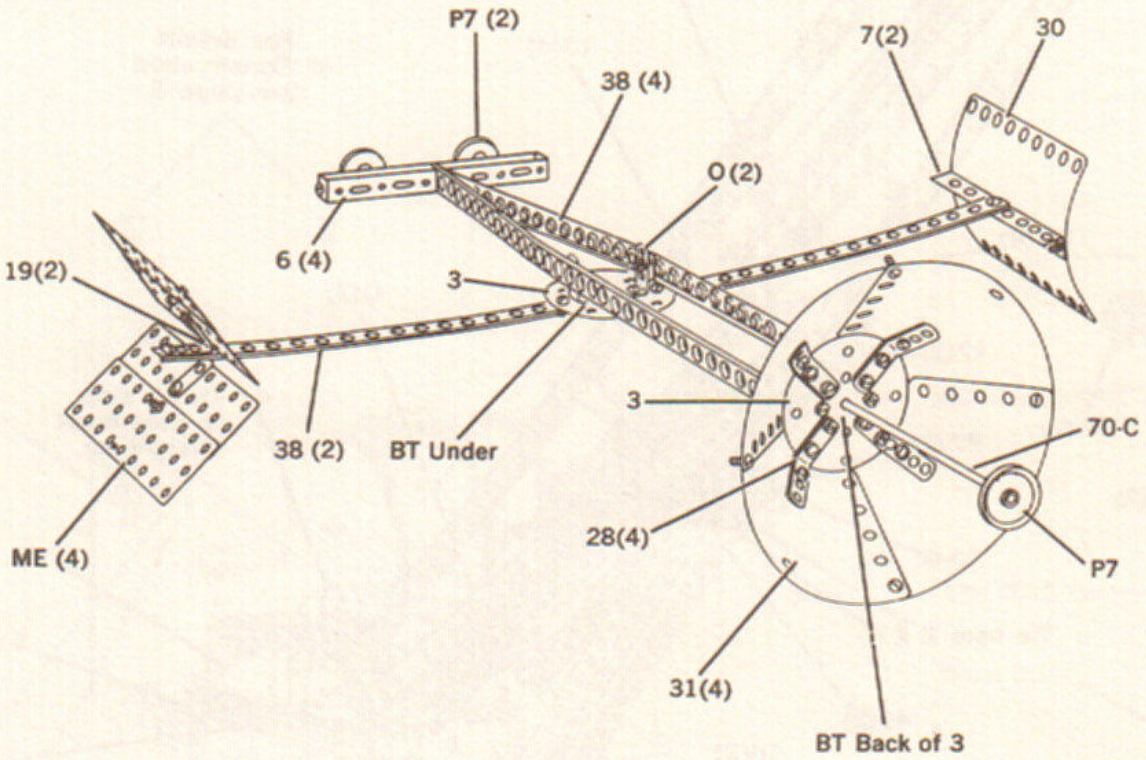


For details of Construction See page 5

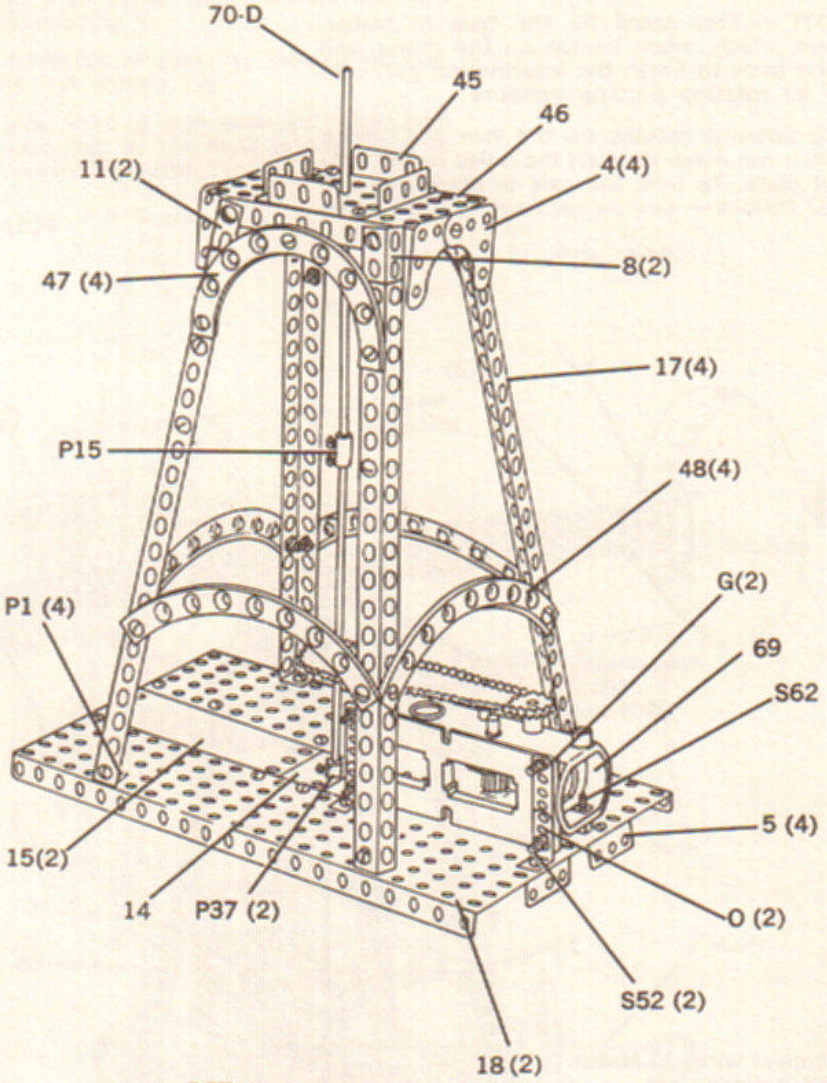
M-6735 M

FIG. 1

LUNAR TRANSMITTER



DETAIL B
CONSTRUCTION OF ANTENNA



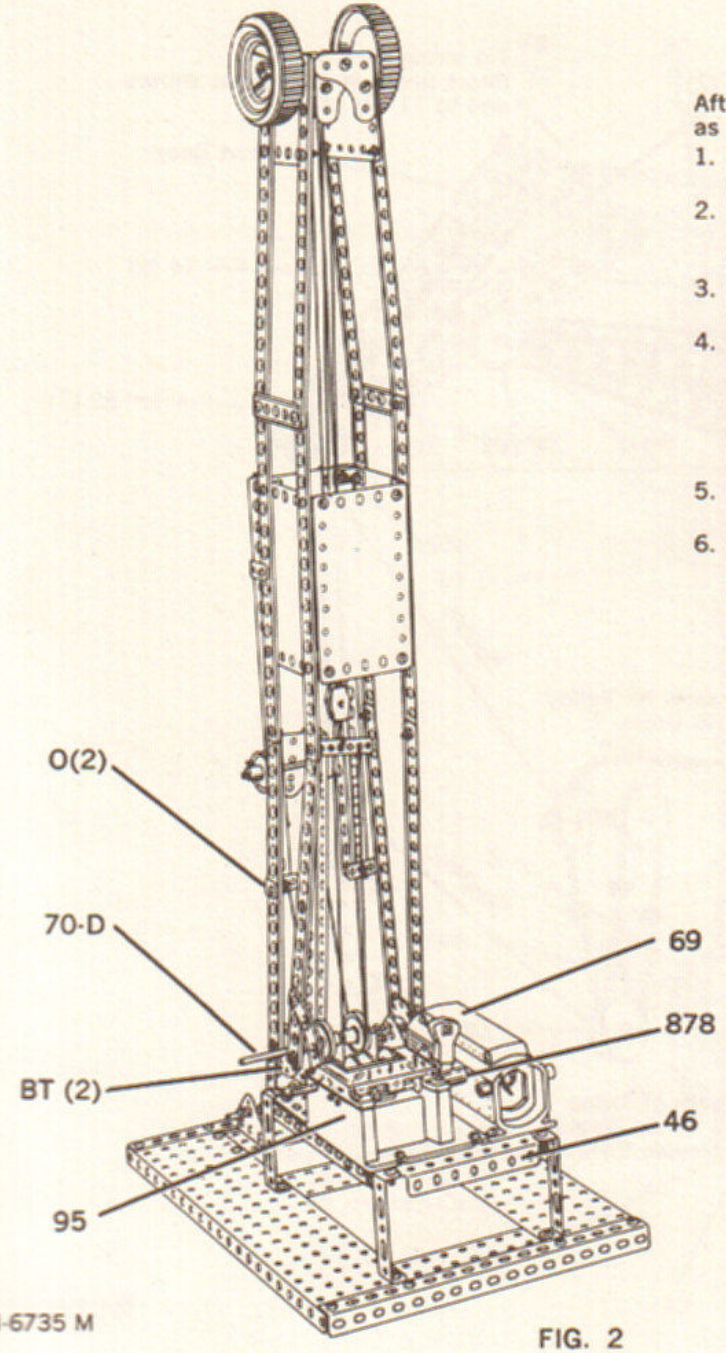
DETAIL A
CONSTRUCTION OF TOWER

M-6735 M

OIL DRILLING RIG

After the model is assembled, hook up the strings as follows:

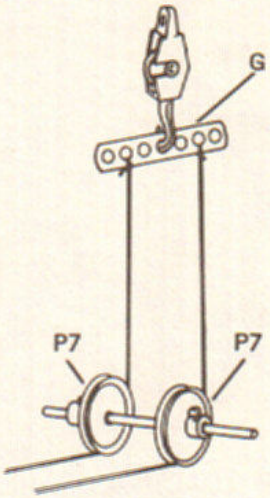
1. Position model on table with mast to left in lowered position.
2. Tie two strings about 14 inches long to end of raising boom, at X-X, Figure 1. Tie other end of string to G — seven hole strip, Figure 3.
3. Tie one end of another string to base of model, at X in Figure 1.
4. Refer to Figure 2-B and run string up over left pulley in double sheave down and around pulley in single sheave, up over right pulley and down to one of the drums on hoist. Tie string so that the hook is about 4 inches or 5 inches above the P-7 pulleys at base of mast.
5. Bring strings on "G" around P-7 pulleys and ram hook on single sheave into center hole.
6. Start motor — when string winds onto drum, mast will raise. To lower, reverse motor with switch on battery case. Figure 1 shows mast partly raised and Figure 2 shows mast completely raised.



M-6735 M

FIG. 2

FIG. 2 A



Tie these ends to Boom X X

To Drum on Hoist

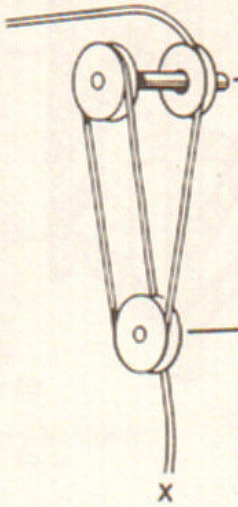


FIG. 2 B

Cut Away Detail to show hook-up of single and double sheave for raising and lowering Boom.

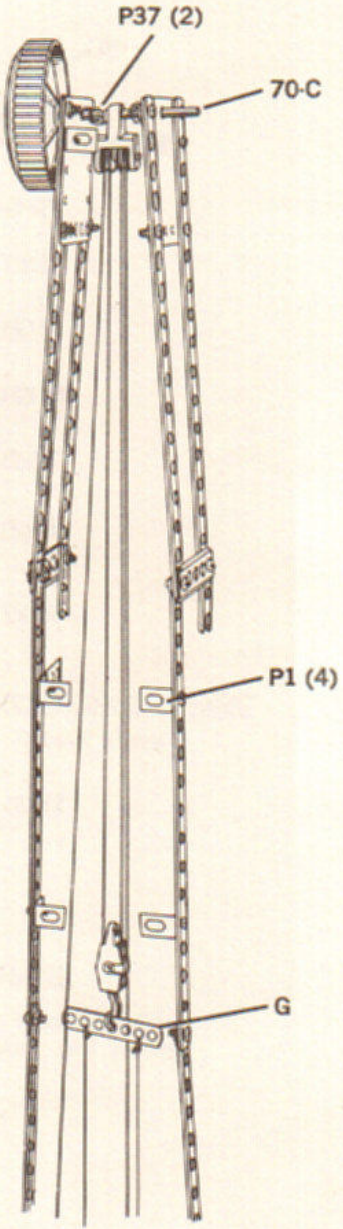


FIG. 3

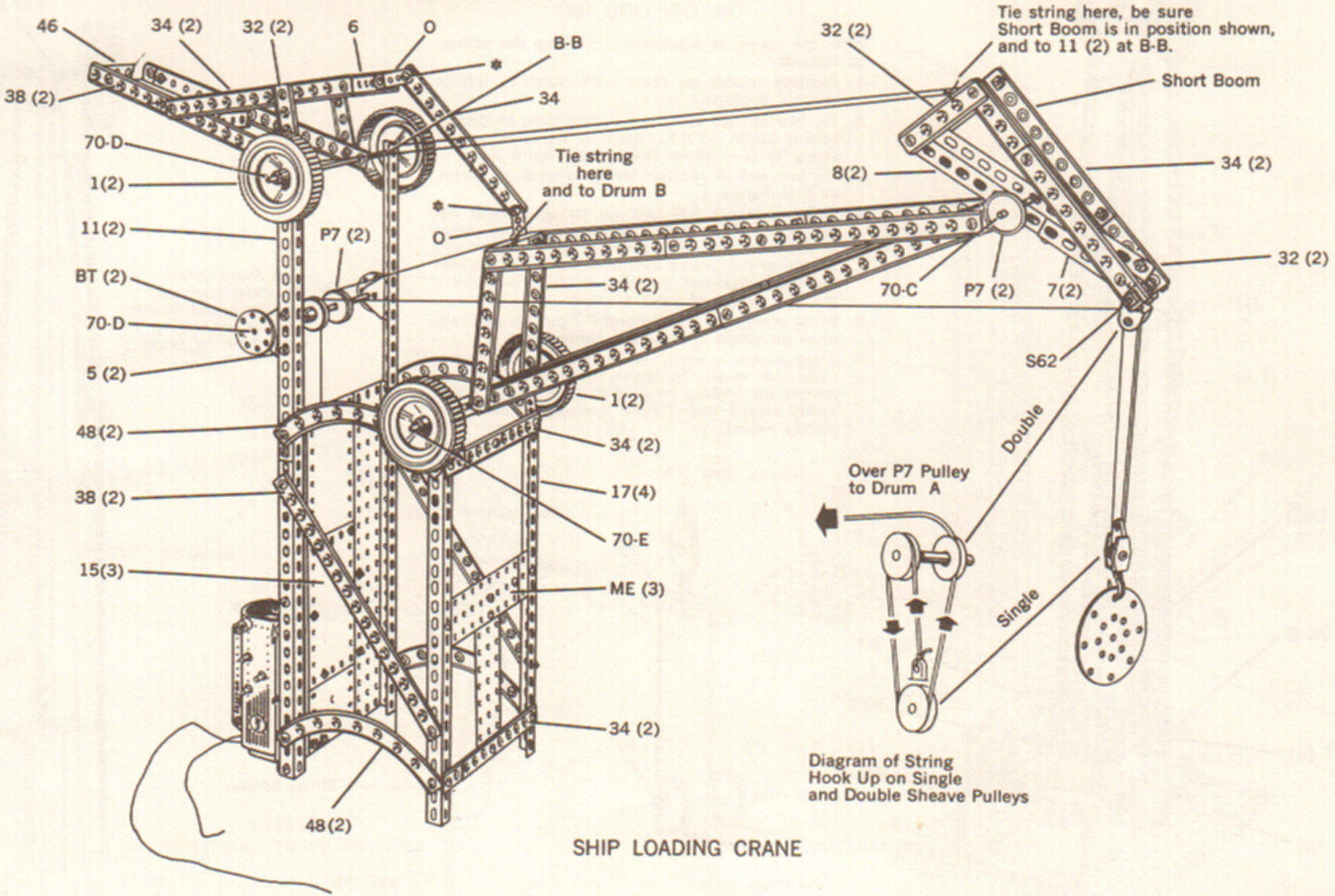
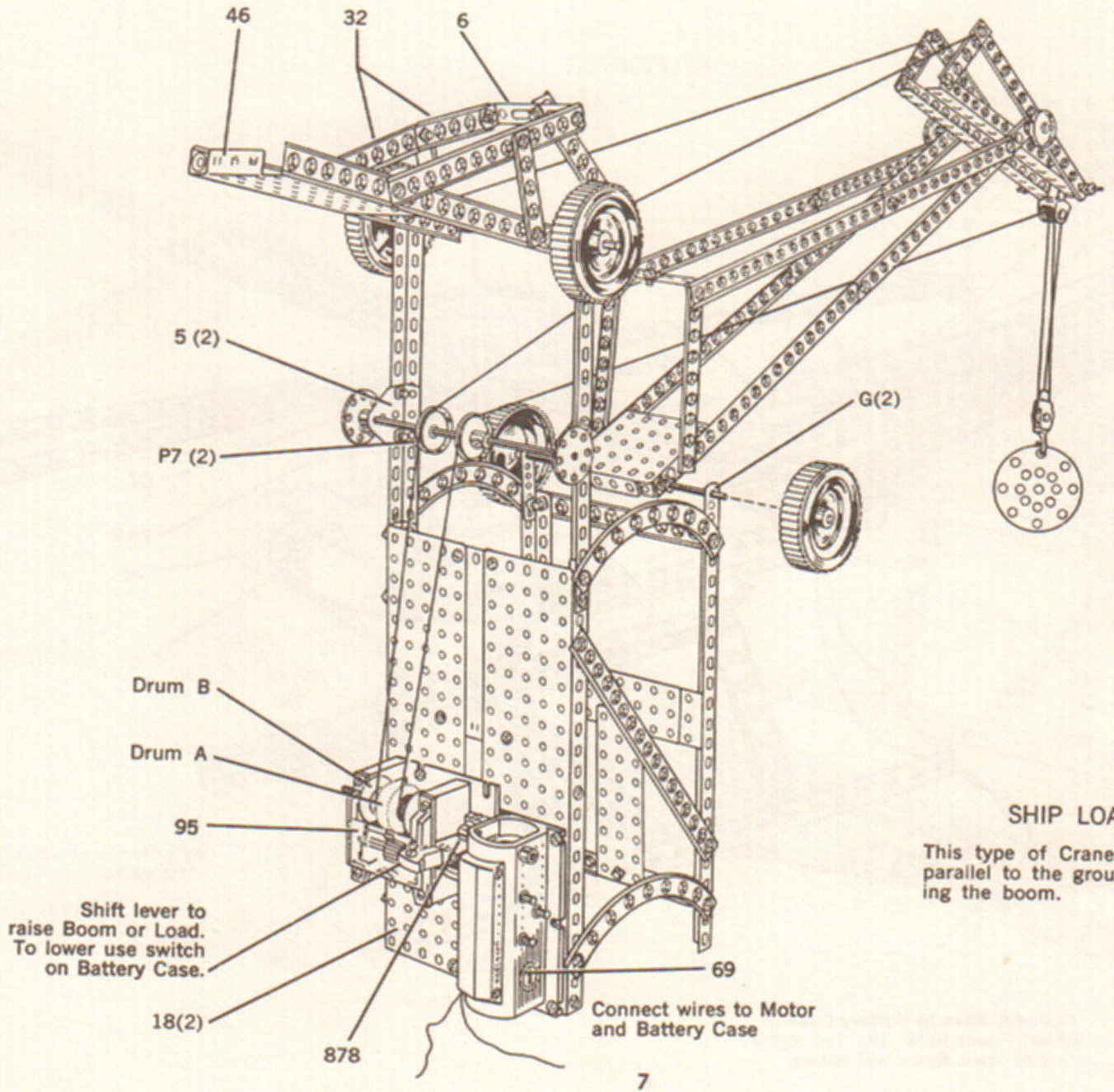


Diagram of String
Hook Up on Single
and Double Sheave Pulleys

SHIP LOADING CRANE

M-6735 M



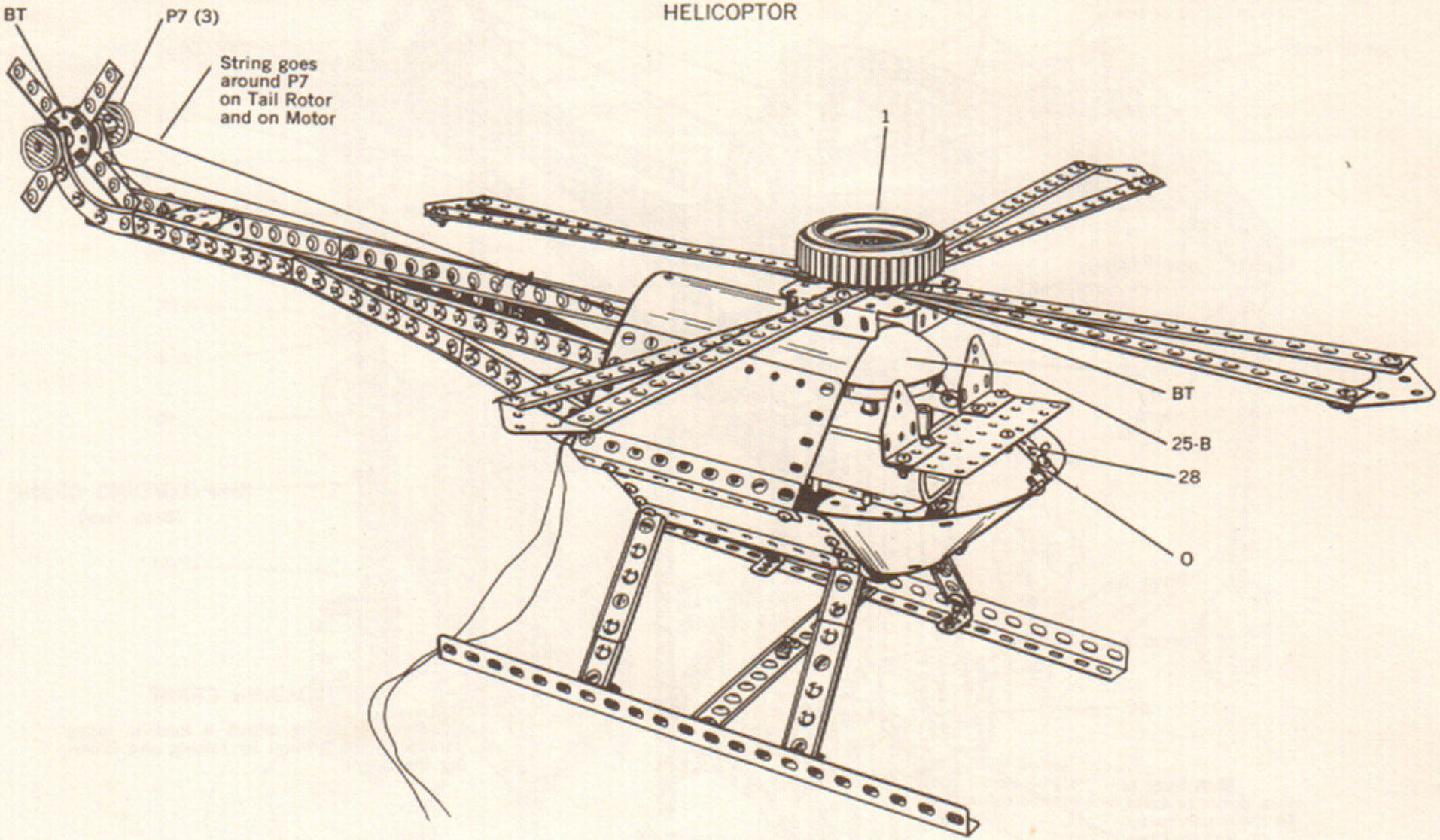
SHIP LOADING CRANE
(Back View)

SHIP LOADING CRANE

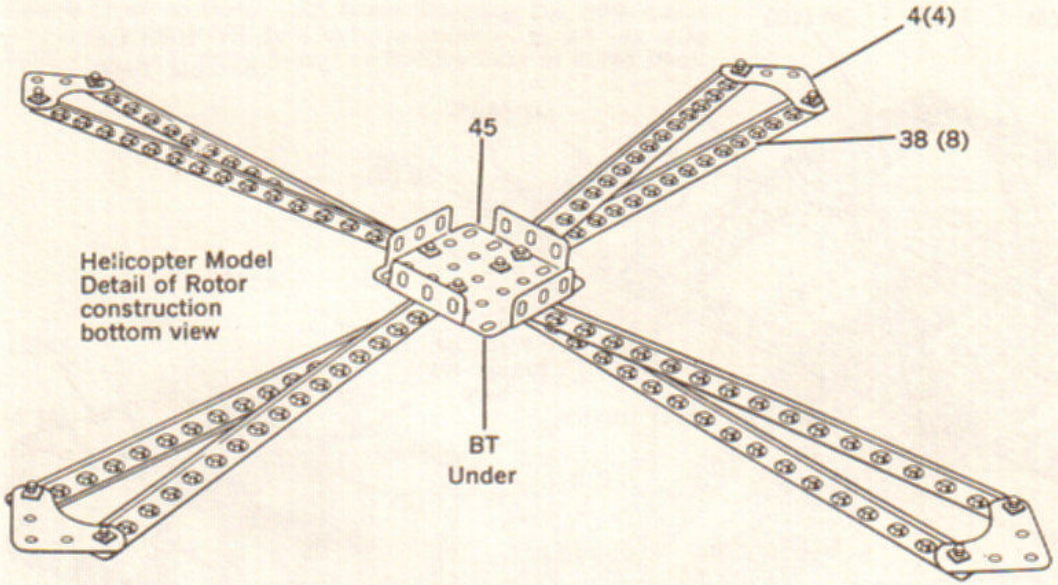
This type of Crane allows a load to move parallel to the ground by raising and lowering the boom.

M-6735 M

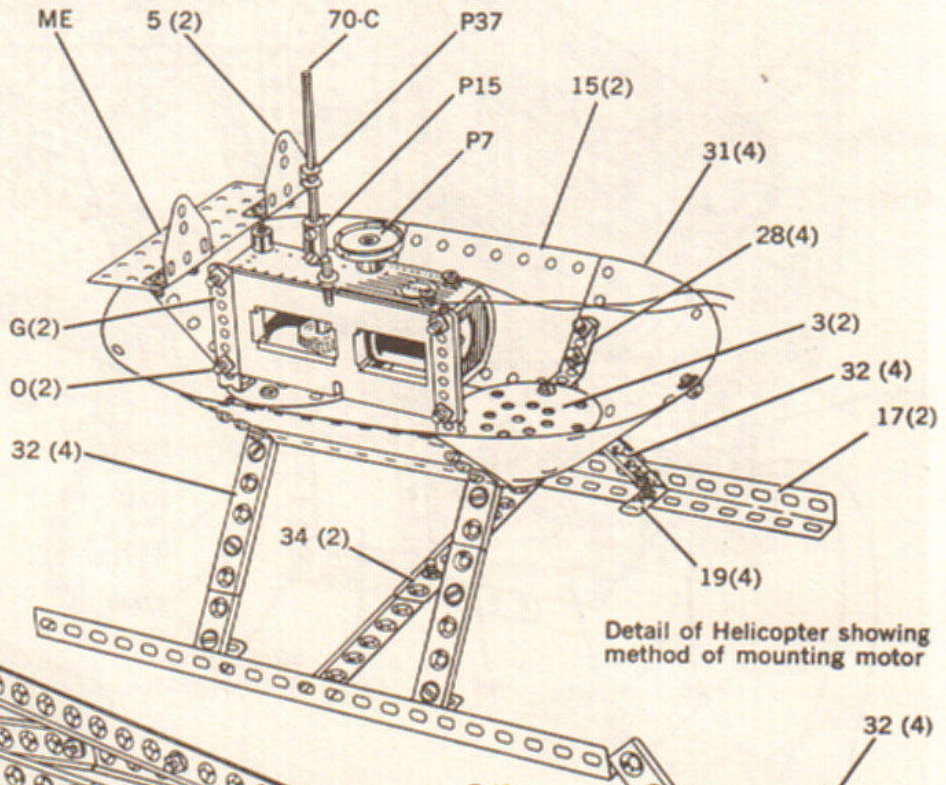
HELICOPTOR



Connect wires to Battery Case or Gilbert Power Pack. The Tail Rotor and Main Rotor will rotate.

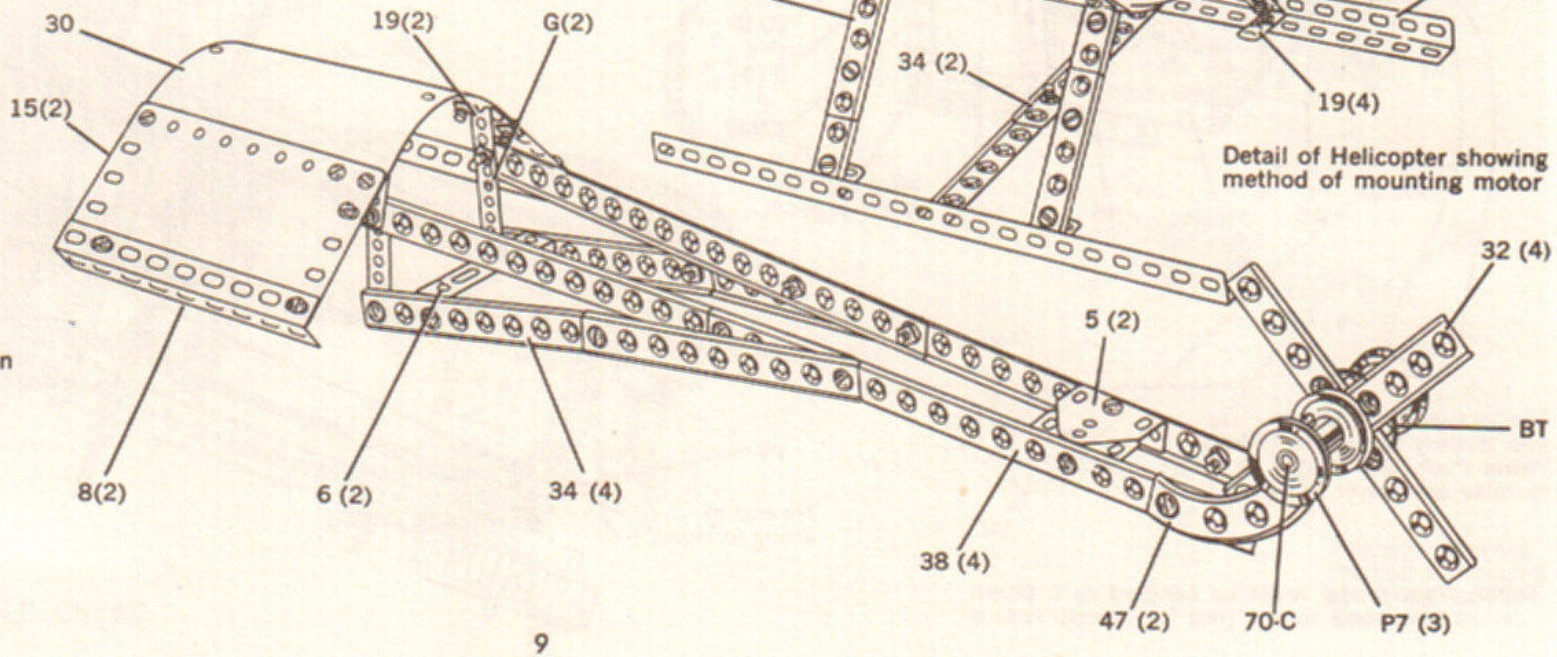


Helicopter Model
Detail of Rotor
construction
bottom view



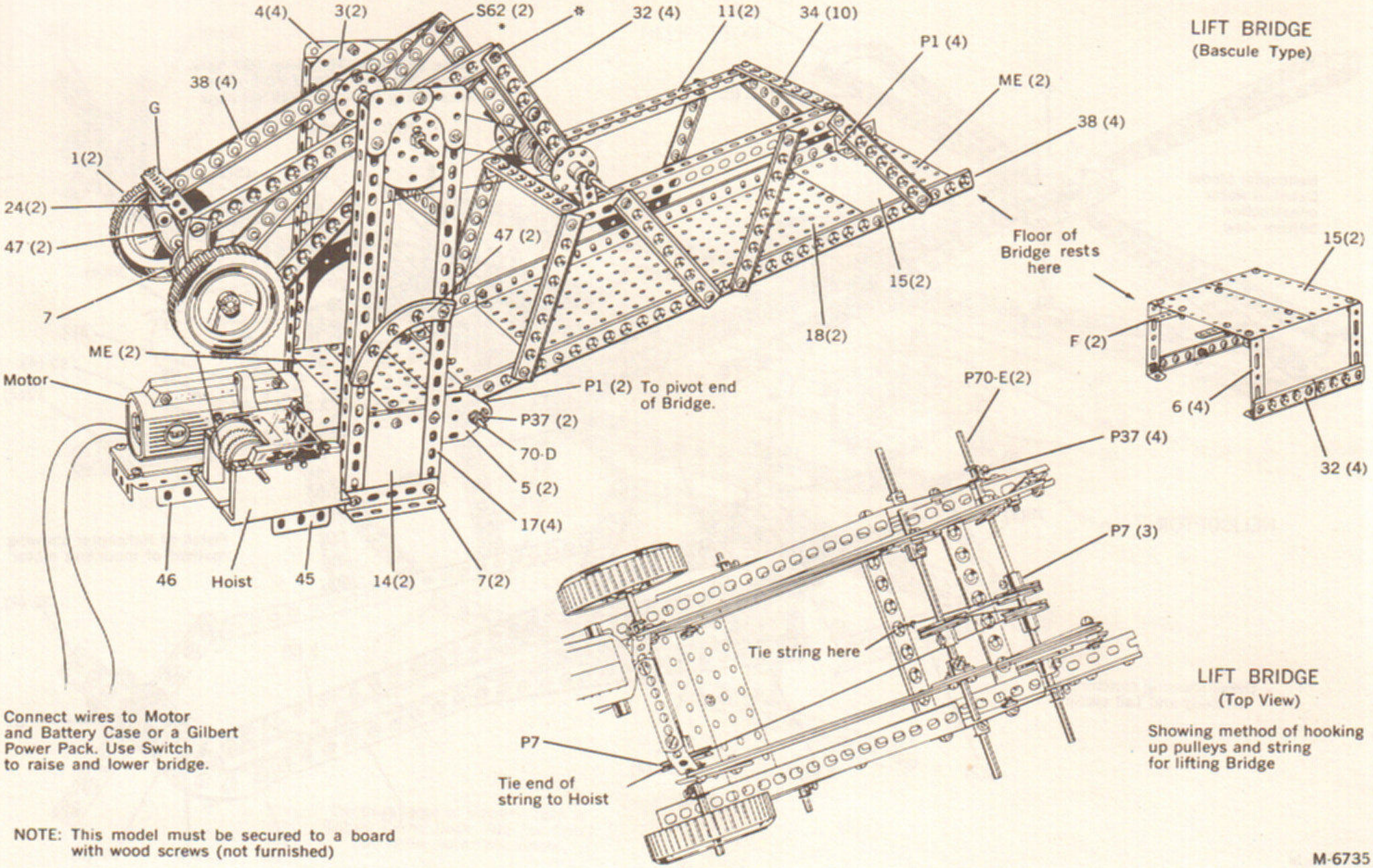
Detail of Helicopter showing
method of mounting motor

HELICOPTOR



Detail showing construction
of Body and Tail section

M-6735 M



LIFT BRIDGE
(Bascule Type)

Connect wires to Motor and Battery Case or a Gilbert Power Pack. Use Switch to raise and lower bridge.

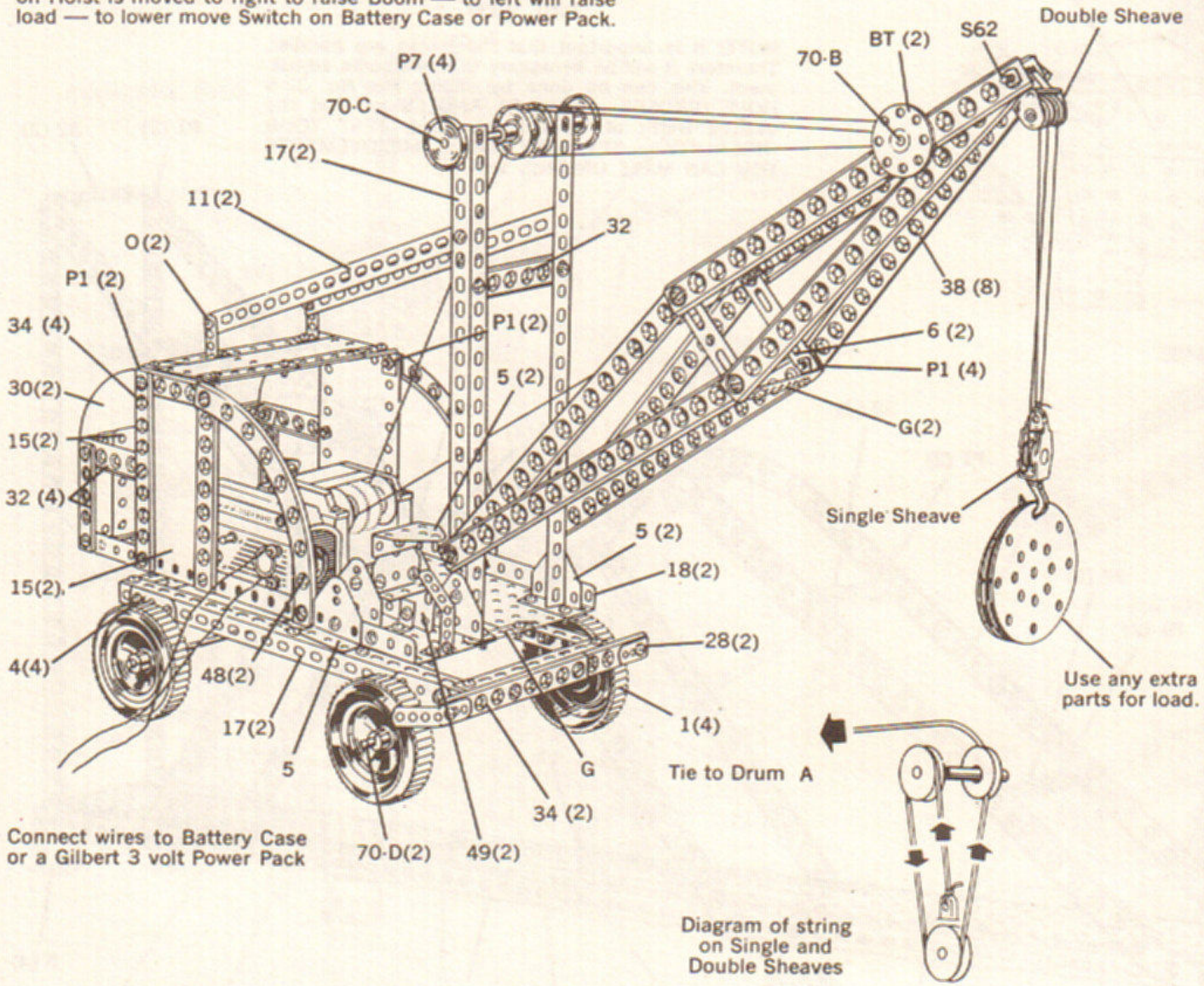
NOTE: This model must be secured to a board with wood screws (not furnished)

LIFT BRIDGE
(Top View)

Showing method of hooking up pulleys and string for lifting Bridge

M-6735 M

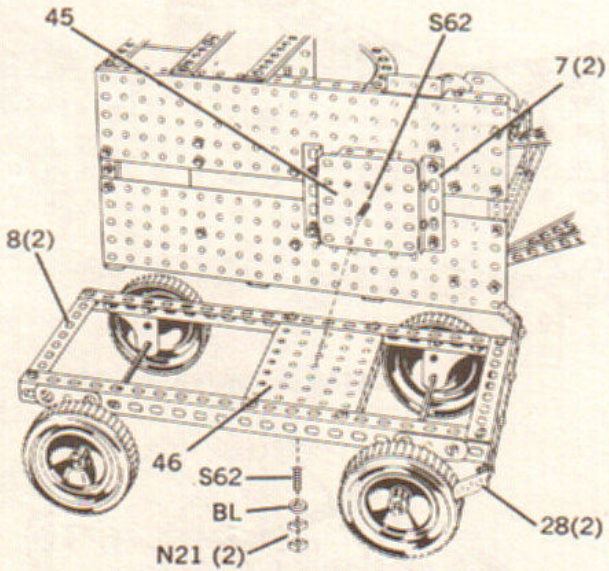
Couple Hoist to Motor with Motor Coupling No. 878. Lever on Hoist is moved to right to raise Boom — to left will raise load — to lower move Switch on Battery Case or Power Pack.



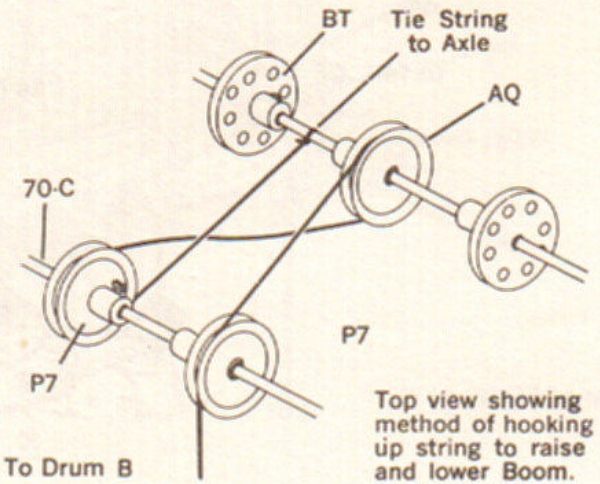
Connect wires to Battery Case or a Gilbert 3 volt Power Pack

Diagram of string on Single and Double Sheaves

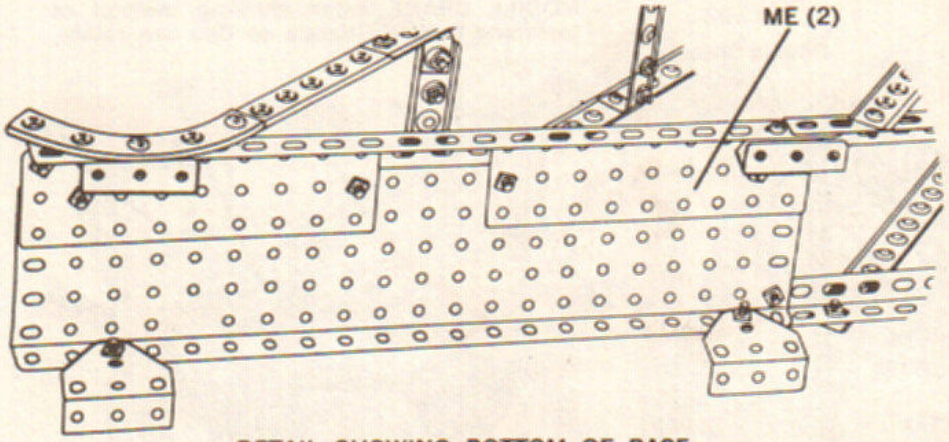
MOBILE CRANE detail showing method of fastening Cab to Chassis so Cab can rotate.



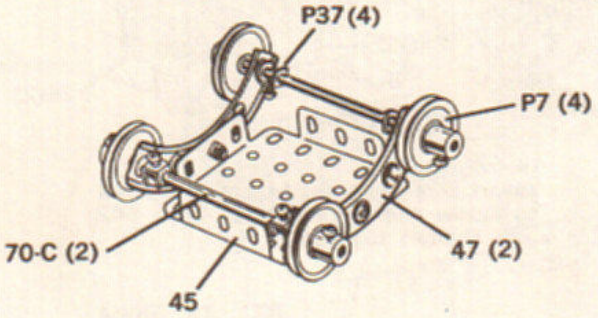
Insert screw in hole. Assemble washer to screw then run N21(2) onto S62 and tighten together.



Top view showing method of hooking up string to raise and lower Boom.



DETAIL SHOWING BOTTOM OF BASE

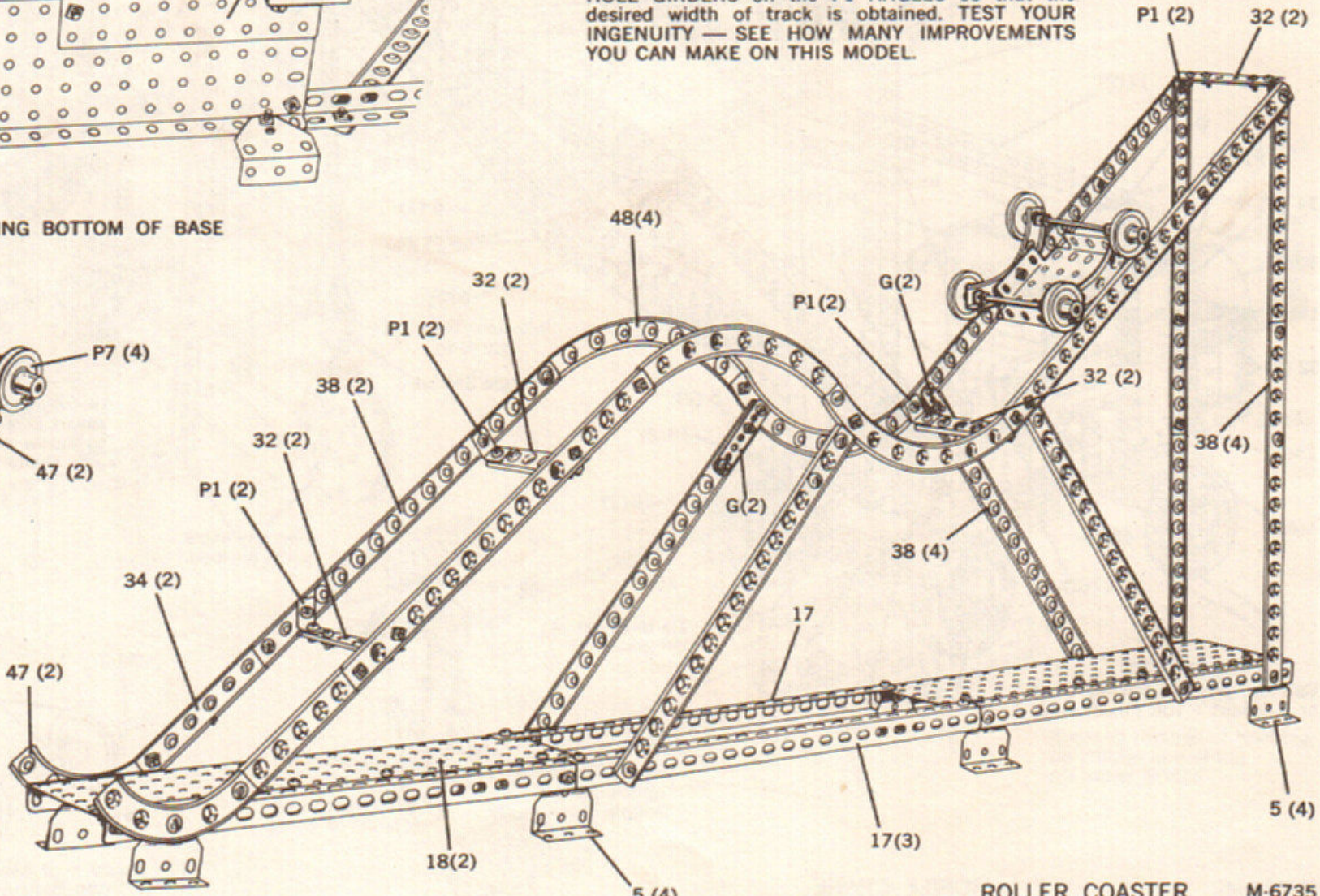


DETAIL OF CAR

ROLLER COASTER

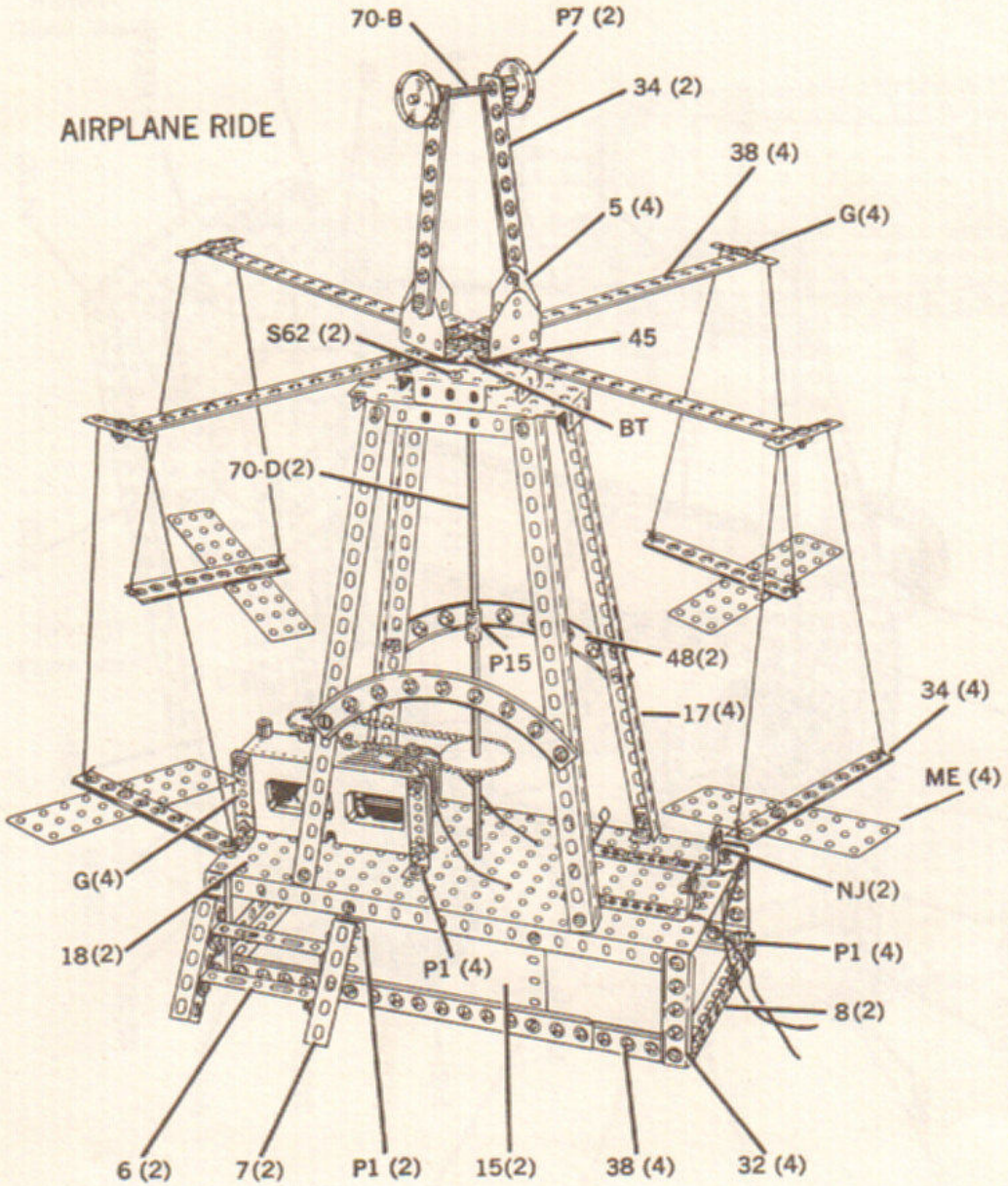
SIDE VIEW

NOTE: It is important that the tracks are parallel. Therefore it will be necessary to make some adjustment. This can be done by sliding the No. 32-5 HOLE GIRDERS on the P1 ANGLES so that the desired width of track is obtained. TEST YOUR INGENUITY — SEE HOW MANY IMPROVEMENTS YOU CAN MAKE ON THIS MODEL.

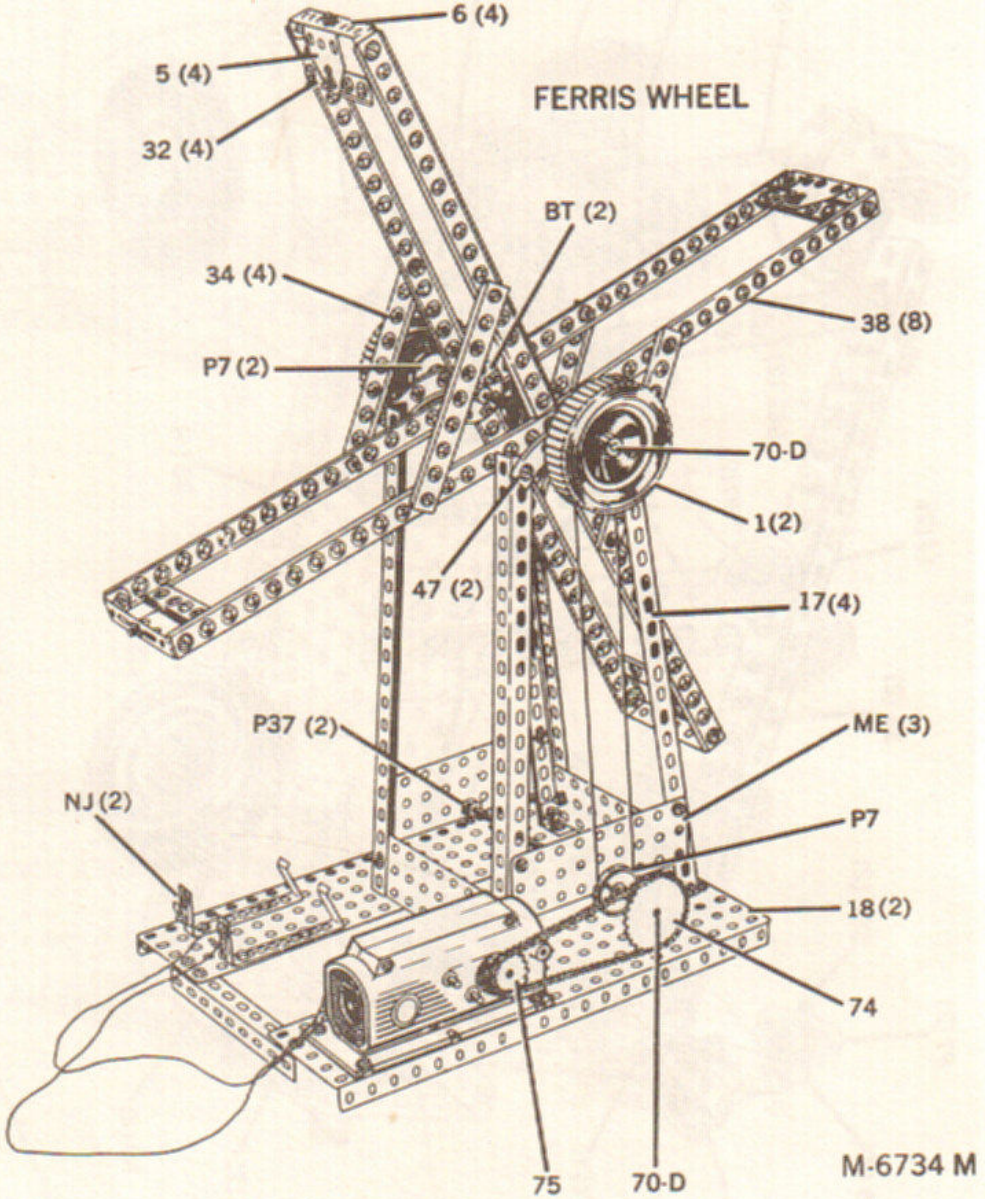


ROLLER COASTER M-6735 M

AIRPLANE RIDE



FERRIS WHEEL



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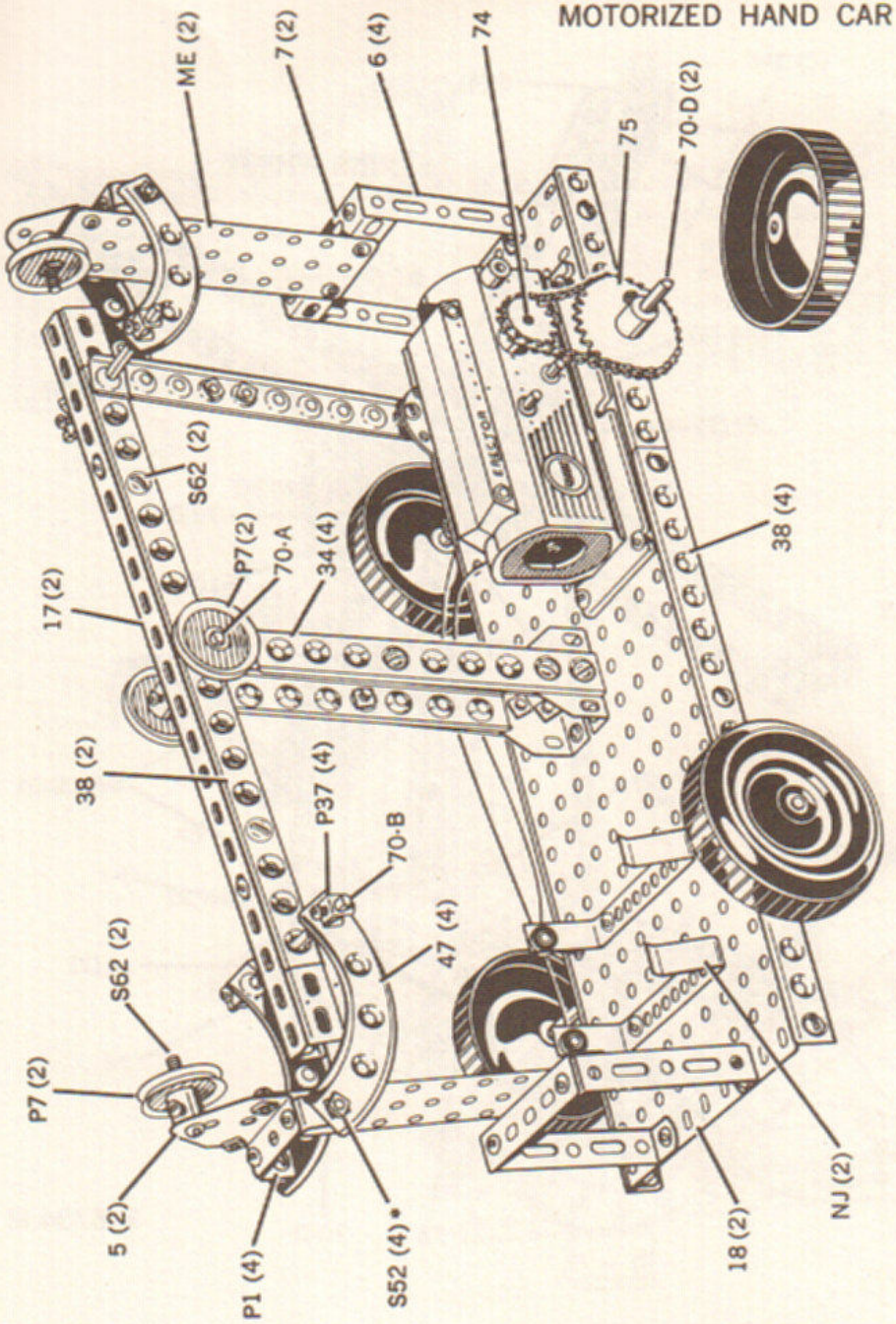
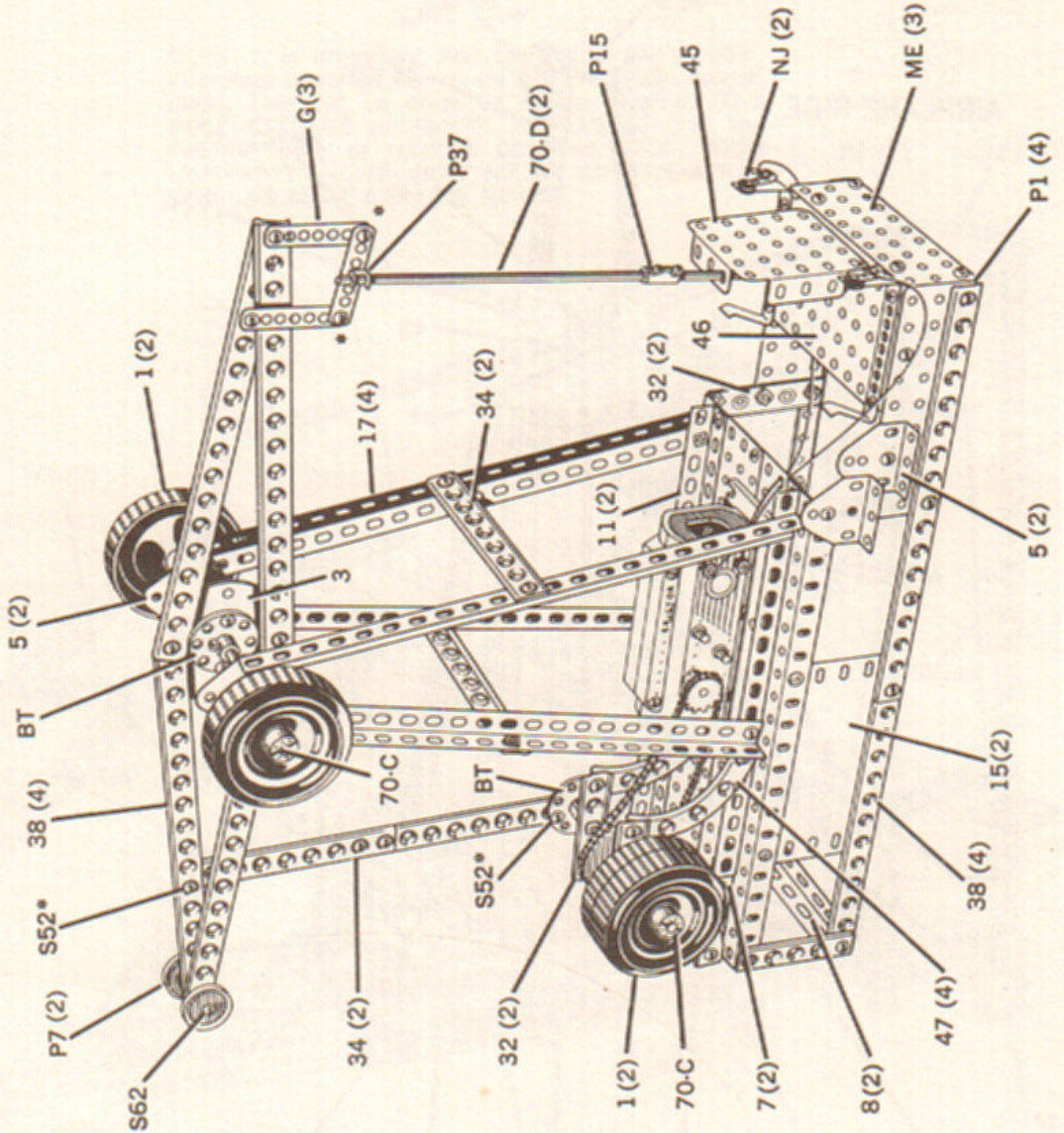
MOTORIZED HAND CAR

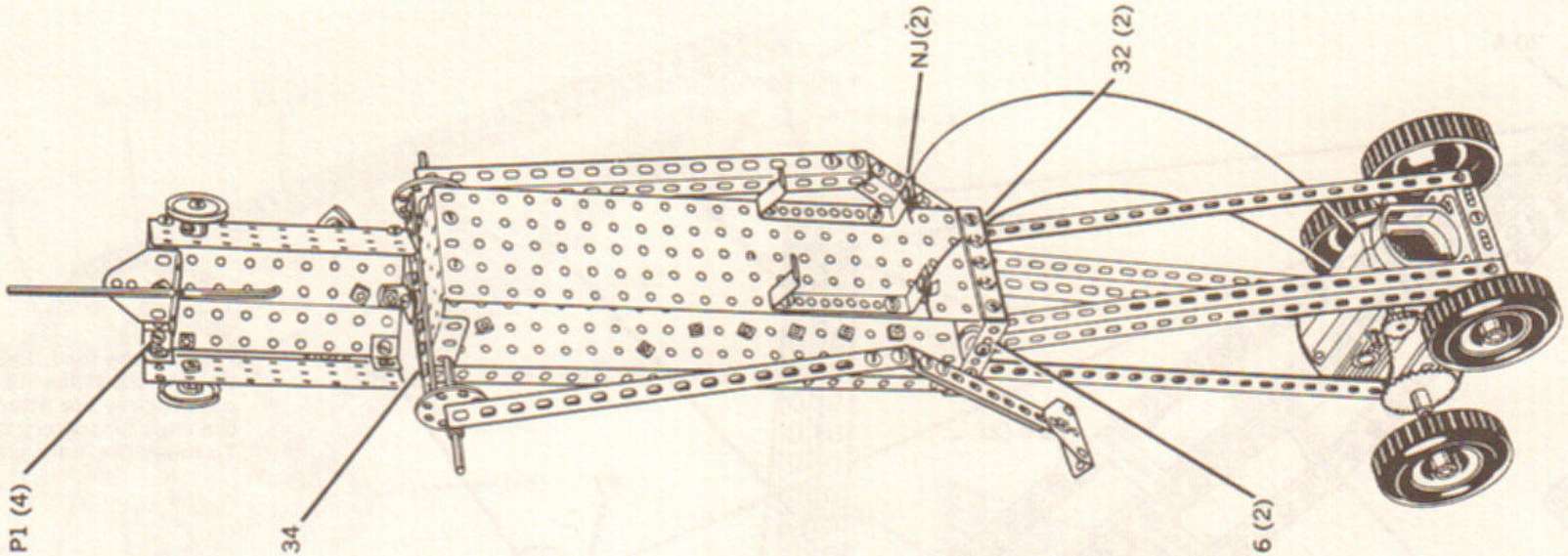


WALKING BEAM ENGINE

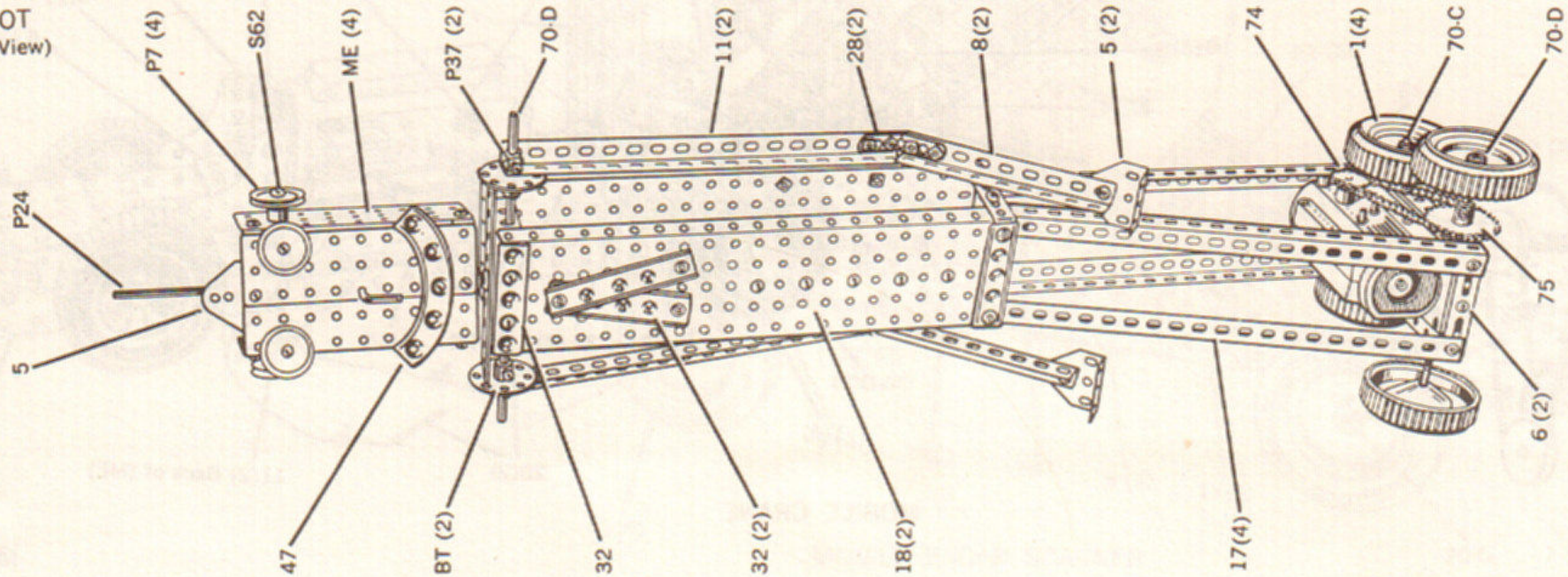


M-6734 M

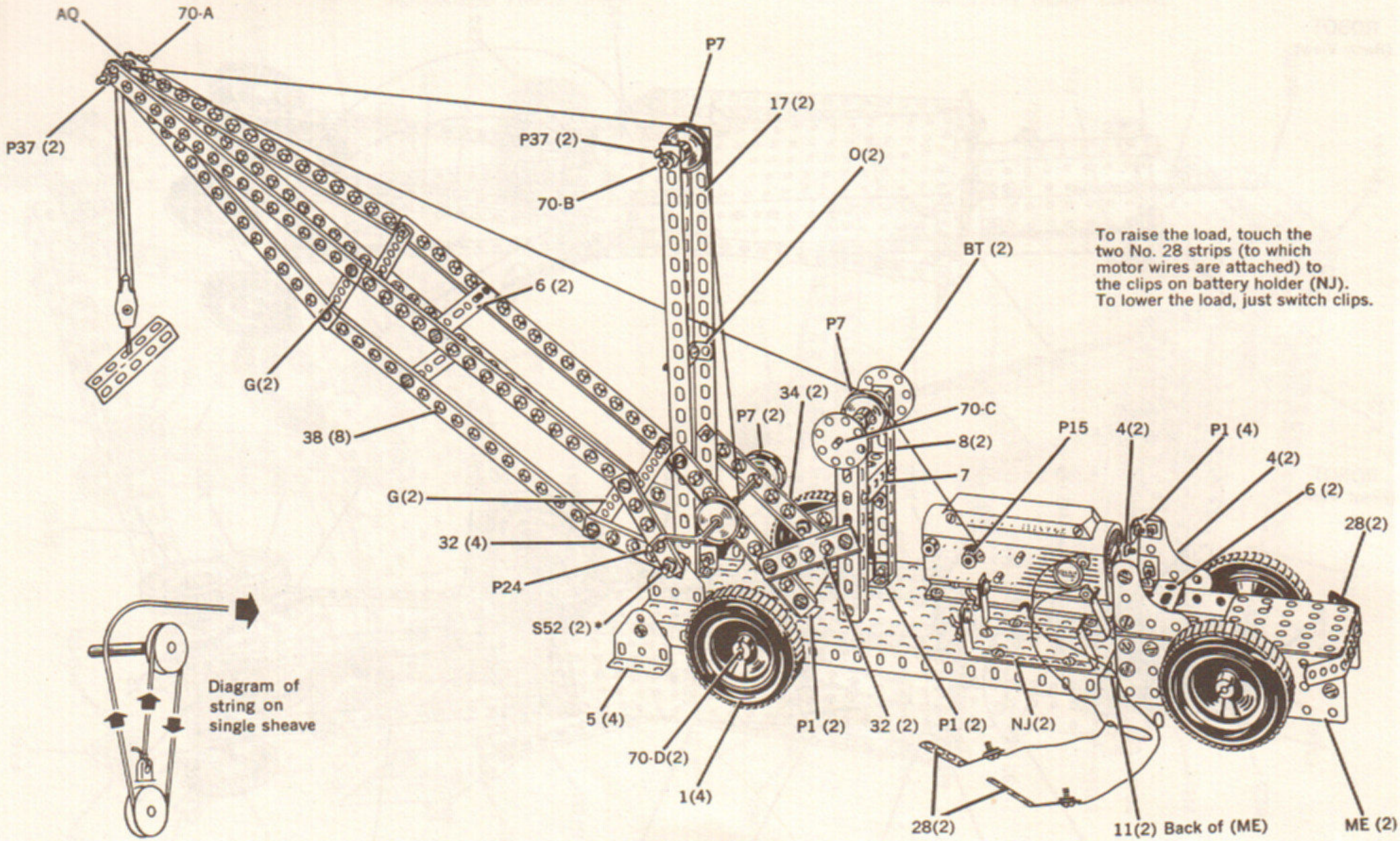
ROBOT
(Back View)



ROBOT
(Front View)

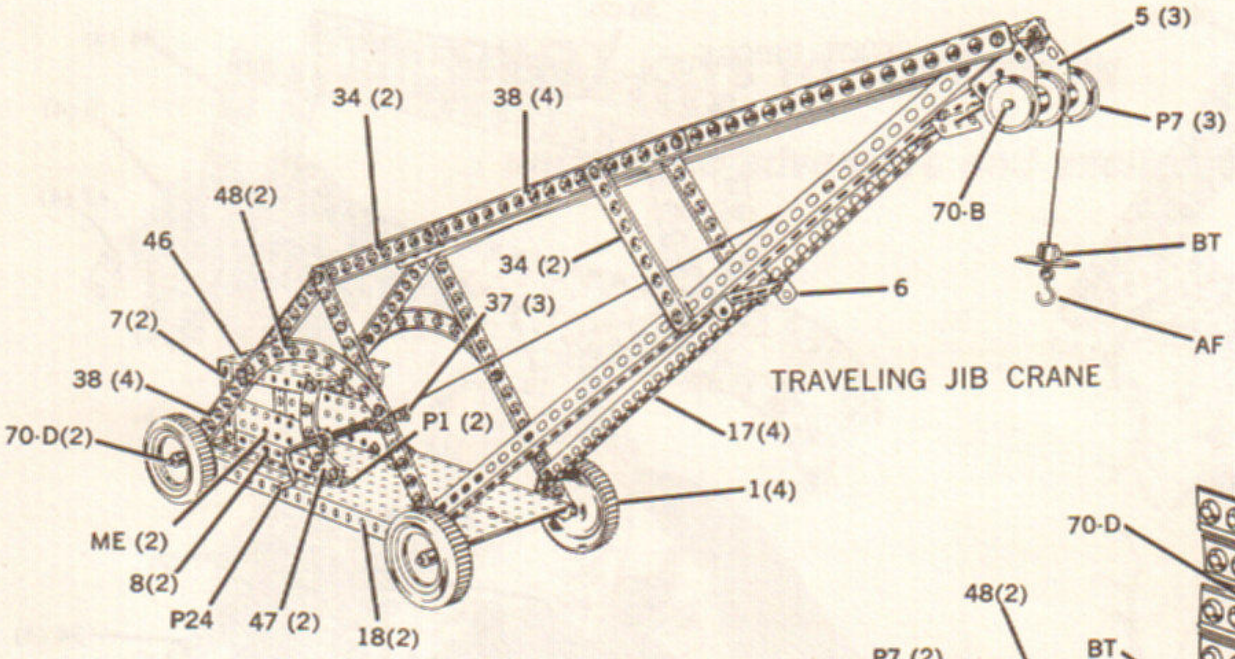


M-6734 M

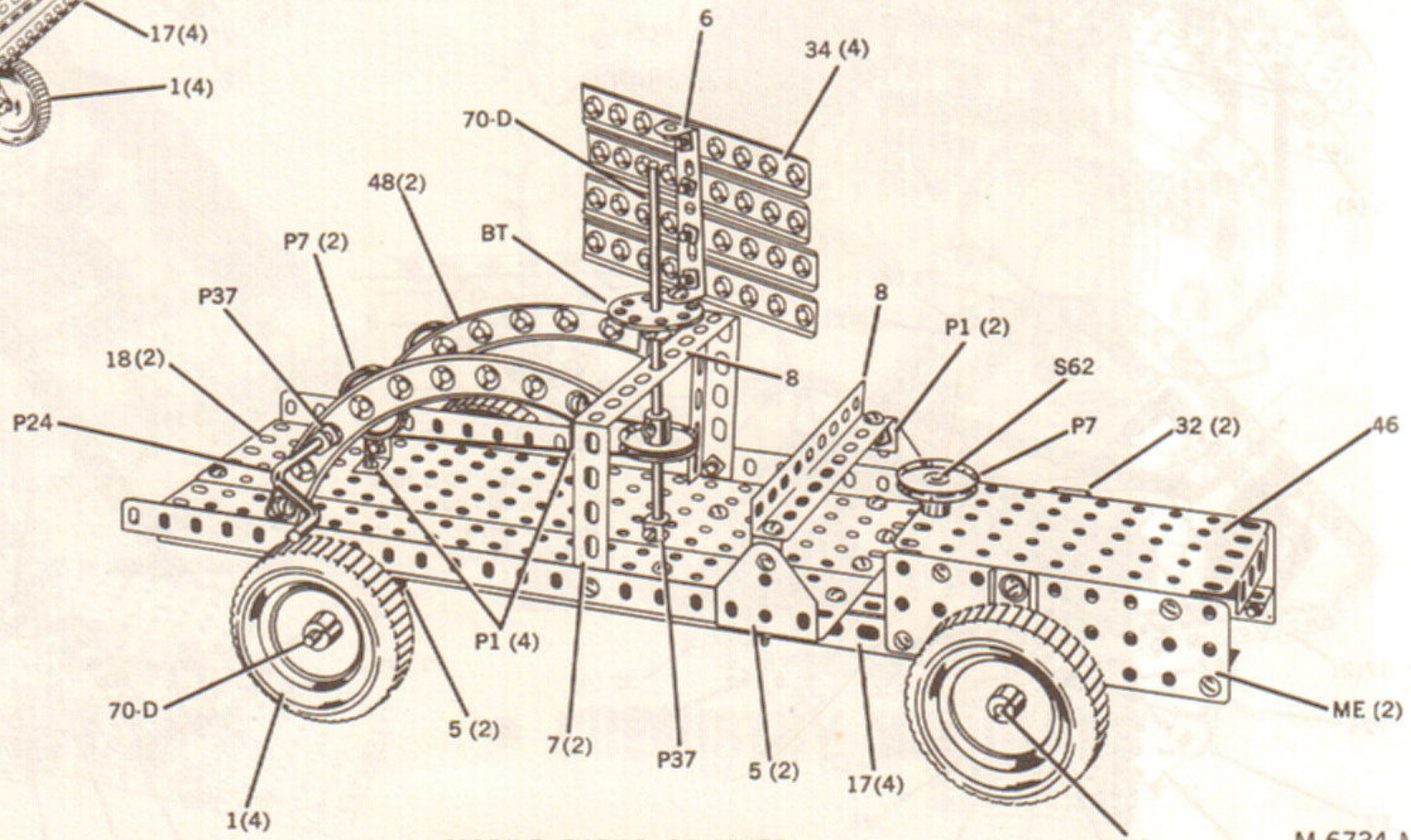


MOBILE CRANE

M-6734 M

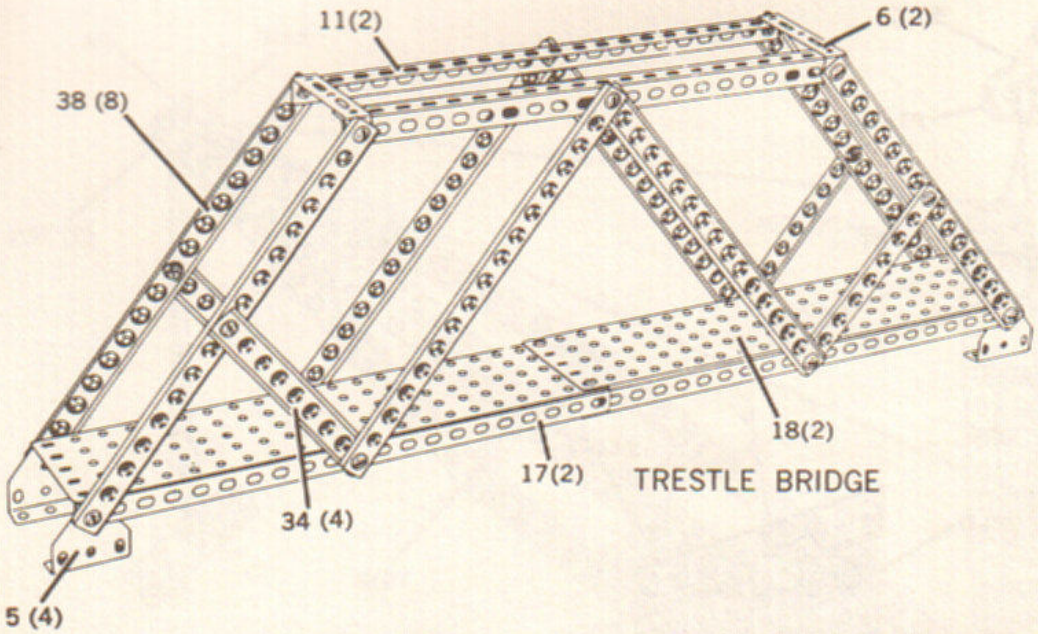


TRAVELING JIB CRANE



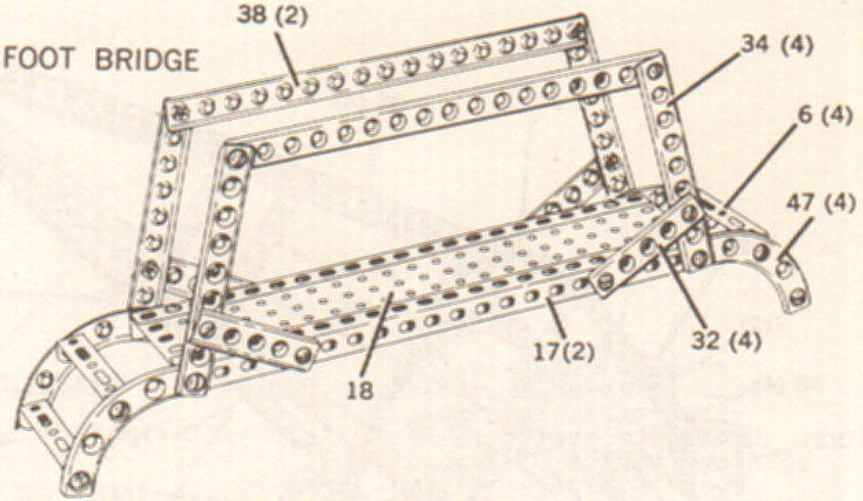
MOBILE RADAR SCANNER

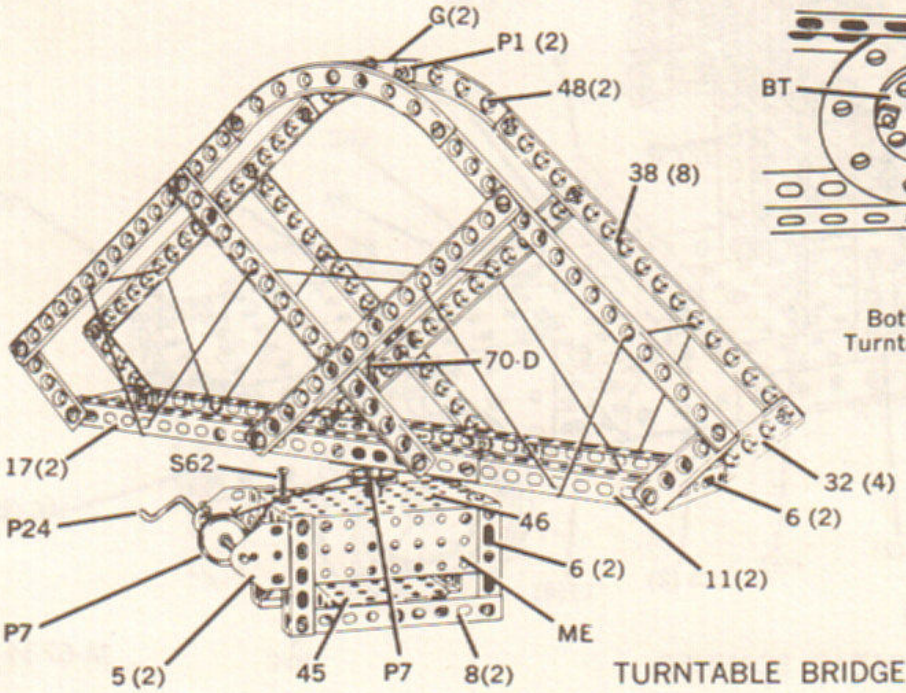
M-6734 M



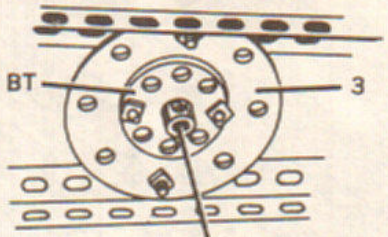
TRESTLE BRIDGE

FOOT BRIDGE

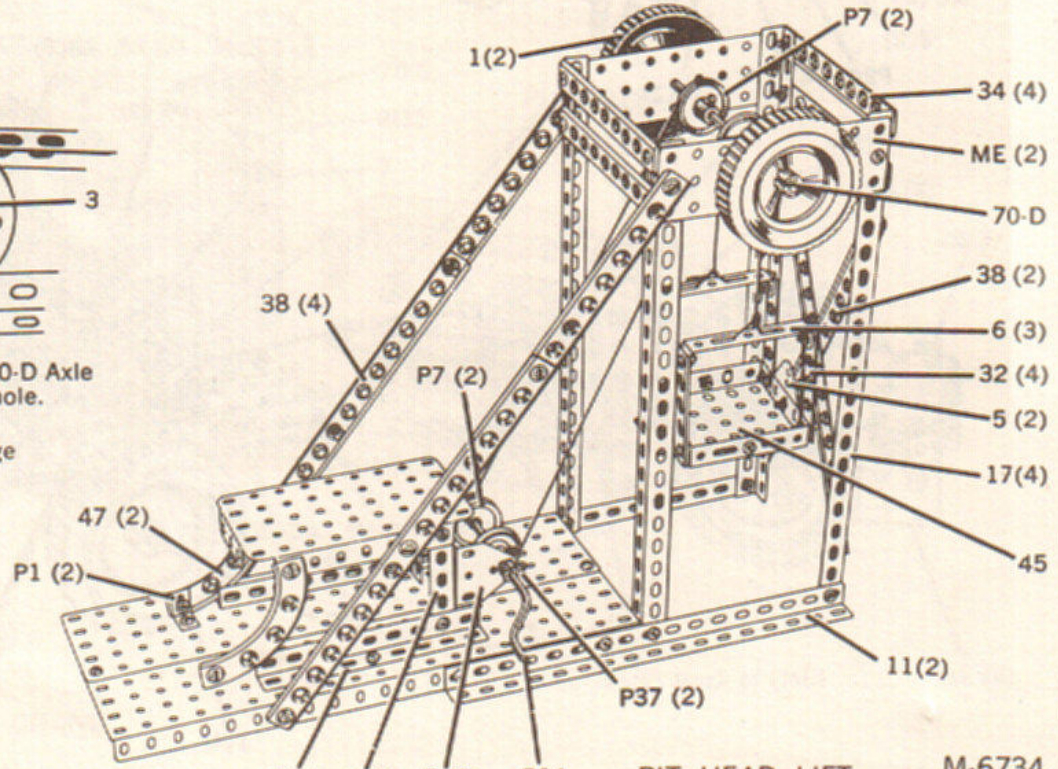




TURNTABLE BRIDGE



Bottom View
Turntable Bridge



PIT HEAD LIFT

M-6734 M

GILBERT KEYS TO TOMORROW

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• MICROSCOPE SETS

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NOTICE

Additional assembly instructions for Power Matic Motor.

If it becomes necessary to make the adjustment described in item 8 of the Power Matic Motor assembly instructions; be sure that only a little of the pad is filed off each time and the unit is reassembled after each filing. If too much of the pad is removed, the two gears will mesh too tightly and the motor will bind.

M8092