Portable Rides

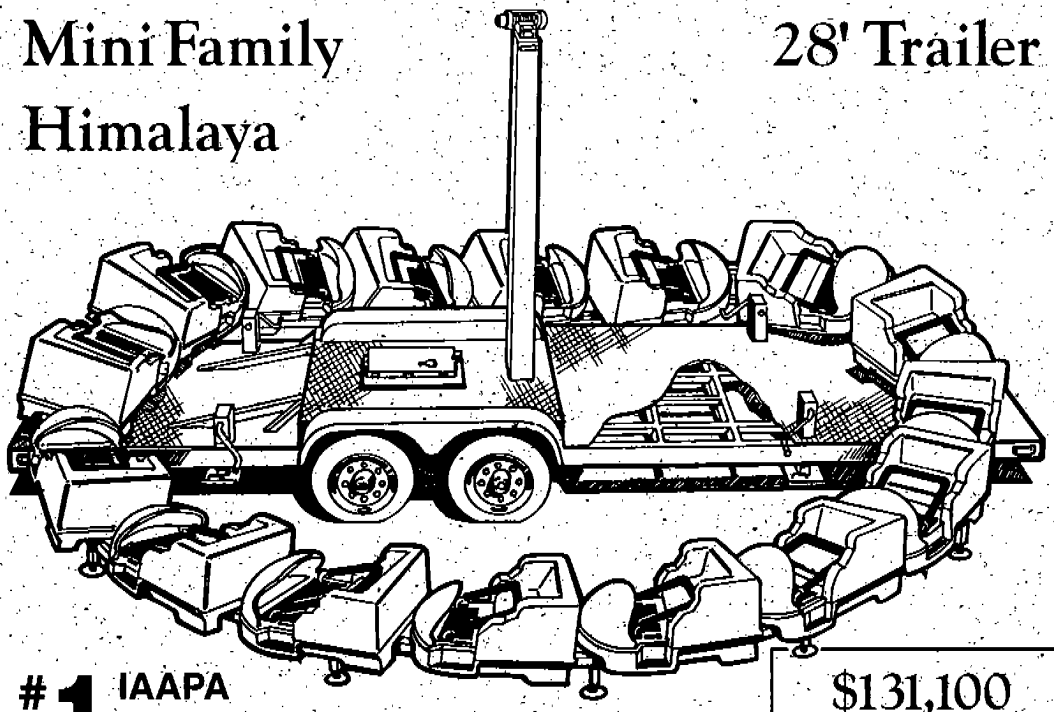
Worlds' Best Family Rides | Dallas, Texas • January 1995

MFG: DESIGNS INT. X S
NAME: MINI HIMALAYA
Type: Non-Kiddie

1995 FAMILY

Mini Family Himalaya

28' Trailer



#1 IAAPA Winner

$131,100
Portable

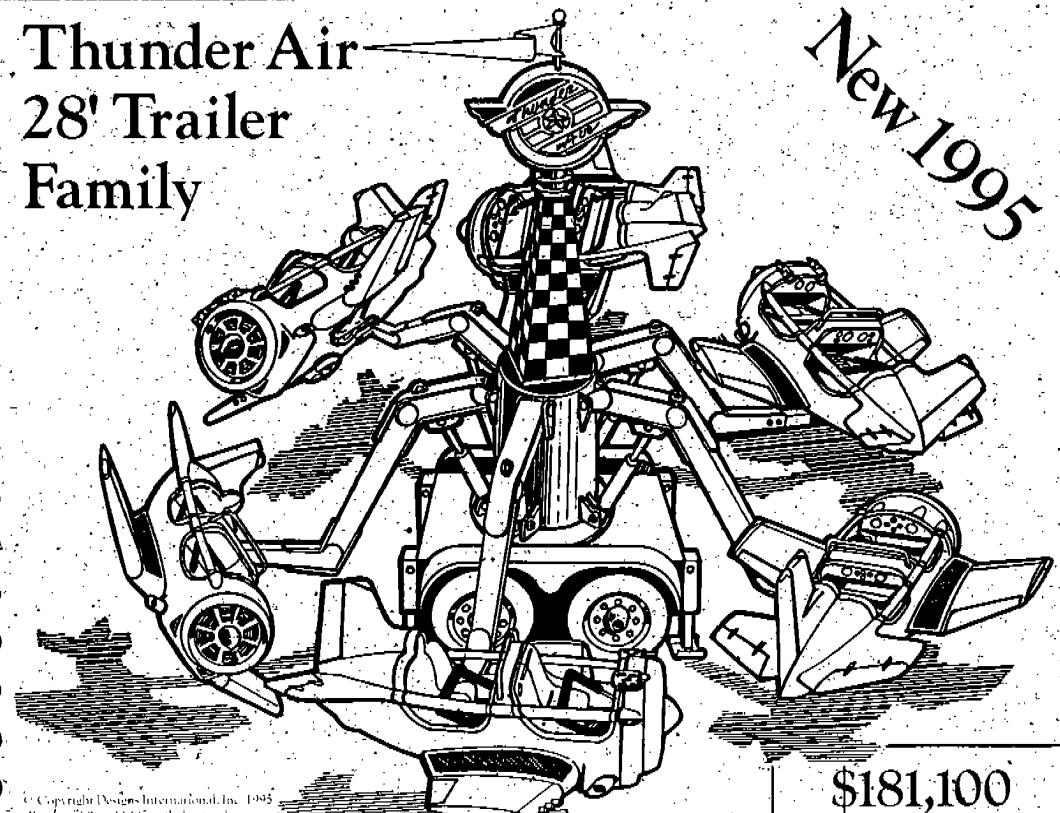
- RATED THE #1 FAMILY RIDE
- FORWARD AND REVERSE
- RUNS FAST AT 12 RPM
- RIDE CAPACITY OF 48
- THRILL FOR KIDS AND ADULTS
- TOP GROSSING REVENUE RIDE

The main overriding difference in our rides is Family. Our rides are designed and engineered to hold both adults and children. The capacity of our rides simply holds more people per square foot of space than anyone. The facts are, we build our rides to accommodate the additional weight and forces that result from adult riders. They are not kiddie rides which squeeze in adults, and do not have the structure or safety to hold adults properly.

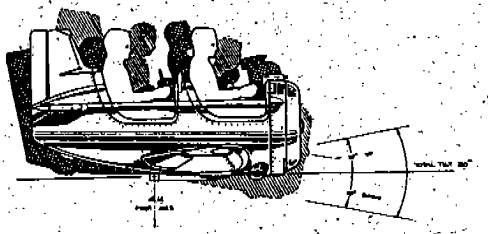
Made in USA

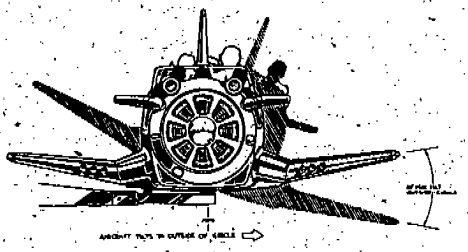
Thunder Air 28' Trailer Family

New 1995



- ADULTS AND CHILDREN
- RIDE CAPACITY OF 36
- SIX OR EIGHT SWEEPS
- HEIGHT OF 15 FEET
- ARTICULATING AIRPLANES





$181,100
Portable

DESIGNS INTERNATIONAL
8401 John Carpenter Freeway
Dallas, Texas USA 75247

(214) 634-2900
fax (214) 634-3364

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MINI-HIMALAYA

INTRODUCTION

This manual is intended to be utilized as a guideline in the development of a specific Operations and Maintenance routine. This manual should not be utilize as a sole resource but in conjunction with current specific operations and maintenance procedures and guidelines. The information contained in this manual has been complied from several different sources and is current at the time of writing. Due to ongoing operational changes this manual should be considered a "living" document and be updated on a routine basis.

This document describes a children's amusement park ride system. It's purpose is to explain the physical ride, operations and maintenance procedures.

SPECIFICATION SHEET

SEASON: 1994 OWNER: _____

ATTRACTION: MINI-HIMALAYA MANUFACTURER: DESIGNS INTERNATIONAL

SERIAL NUMBER: _____ MODEL NUMBER: GROUND MOUNT

DATE OF MANUFACTURE: JUNE 1994 MAX SPEED: 12 RPM MIN SPEED: _____

STATIC HEIGHT: 4"6" WIDTH: 29"10" DEPTH: 29"10" DIAMETER: 34' 4"

DYNAMIC HEIGHT: 4"6" WIDTH: 29"10" DEPTH: 29"10" DIAMETER: 34' 4"

DIRECTION OF TRAVEL: BOTH CLOCKWISE AND COUNTER CLOCKWISE

POWER REQUIREMENTS WATTS: 30KW WATTS: 208 AC PHASE: 3

MINIMUM REQUIREMENTS DRIVE MOTORS: TWO AND AC OTHER MOTORS: _____

TOTAL RIDE PASSENGER CAPACITY: 578 PER HOUR

TOTAL NUMBER OF VEHICLES OR PASSENGER CARRYING DEVICES: 48

VEHICLE CAPACITY PASSENGERS: 2 ADULTS, 1 ADULT & 2 CHILDREN

WEIGHT: 360 LBS PER CAR

PASSENGER RETRICTIONS:

GUESTS UNDER 36 INCHES IN HEIGHT OR UNDER 3 YEARS OF AGE SHOULD BE ACCOMPANIED BY AN ADULT. PREGNANT WOMEN NOT RECOMMENDED TO RIDE.

ENVIRONMENTAL RESTRICTIONS:

N.D.T. SCHEDULE:

ADDITIONAL DATA:

RIDE HISTORY

Ride Manufacturer:

Designs International, Inc.
World Trade Center
Dallas, Texas 75258

Manufacture Date:

June 1994

Type of Ride:

Family Ride

Ride Capacity:

578 Guests Per Hour

Approximate Ride Time:

Three Minute Ride Time
One and Half Minute Forward and One Half Minute In Reverse

DESCRIPTION OF THE RIDE

The following information is provided in accordance with ASTM F698-88, Physical Information to be Provided for Amusement Rides and Devices.

1. SYSTEM OVERVIEW

The circular track ride components are categorized into:

A) Track
B) Chassis
C) Drive System
D) Body/Restraint
E) Electrical

There are sixteen cars linked together via tow linkage in a circular train. Two sets of rails form the track. The track rails are fabricated in four sections (90° each). The cars are driven along the track by two motors opposite from each other in "drive" cars, which leaves fourteen "non-drive" cars. Each car is designed to hold two adults, or three children or one adult with two children.

The ride sequence is:

A) Load Passengers
B) Secure restraints
C) Ramp to full speed (forward)
D) Full speed (90 seconds)
E) Dynamic Brake to Stop
F) Ramp to full speed (reverse)
G) Full speed (90 seconds)
H) Dynamic Brake to Stop
I) Unlock restraints
J) Unload passengers

The ride may be cycled nonstop 24 hours/day, however each cycle must have at least 50% time off (3 minutes on 1-1/2 minutes off). A design life schedule of components is attached.

2. TRACK

The track consists of two sets of 3" x 3" x 1/4" square steel tubing bent in two planes to provide the circular sections and hills/valleys.

3. CHASSIS

The vehicle chassis are the same unless a vehicle is a drive car, where an onboard motor/drive system replaces the two main coaster load wheels. Attached are drive and non-drive vehicle chassis assembly drawings showing wheels, drive system, etc.

DESCRIPTION OF THE RIDE CONT'D)

4. DRIVE SYSTEM

The drive system uses an AC drive/invertor and buss bar system, to power the two drive motors through the cycle described in section 2.1. The conductor rail (buss bar) pickups are mounted in the drive cars near the motors. Track and conductor rails are covered by car frames/bodies, except for a small space between cars where tow bar linkage exists. All drive system components are accessible only from underneath the ride unless the body is removed. Attached are the electrical schematic and buss-bar assembly drawings.

5. BODY / RESTRAINT

The vehicle body has a locking, padded, lap bar restraint system, and no exposed fasteners, similar to an automobile interior. The locking mechanism is an aircraft-type mechanical seat lock that must be locked and unlocked via a pull cable on the outside of the car by the operator. Body themes will vary depending on the model. Bodies are fabricated using fiberglass reinforced plastic (FRP), and include the six brackets bonded to the FRP to mount the bodies to the chassis.

6. PHYSICAL SPECIFICATION INFORMATION

An information plate is provided and located inside the control cabinet. It includes information on the ride serial number, model number, date of manufacture, speed, direction, capacity, restrictions, and requirements.

Ride serial numbers indicate date, style, and performance characteristics. Ride model number indicates fixed vs. portable, and theme design with options. Date of manufacture indicates completion of ride factory testing and inspection.

Ride speed indicates maximum speed which is 12 RPM. A jog speed is provided to fine position the cars on the track for inspection/maintenance. A Low and Medium speed are also provided with some models to vary the ride speed sequence if desired. Low speed is $^1/_3$ of full and medium speed is $^2/_3$ of full and are set in the drive at the factory. Consult the factory for changes to these settings. Ride direction is clockwise forward and counterclockwise reverse.

Ride capacity is 360 lbs. per car, or 5760 lbs. per ride. This can be roughly equated to two adults per car, or three children per car, or one adult with two children per car.

DESCRIPTION OF THE RIDE CONT'D)

The recommended ride duration is 1-1/2 mins. forward followed by 1 1/2 mins. reverse for a total of three mins. A timer is factory set to 1-1/2 mins. Consult the factory for changes to this setting.

The ride is approximately a 30 ft. diameter without clearance/fencing. Arm reach clearance is 15 ft. inside and 35 ft. outside (diameters). The minimum ceiling height is 10 ft. The total weight of the ride is approximately 5000 lbs. The clearance envelope remains the same when the ride is in motion.

Fixed rides are bolted to the ground using 3/4 inch rod anchors. Two anchors are on each end and two are at the mid supports of each quarter section of track for a total of 24 anchors. Anchors are 8 inches long with 6 inches below ground level. A thickness of rubber padding is provided to damp out vibration and allow for minor floor variations.

OPERATING PROCEDURES

The following information is provided in accordance with ASTM F770-88, Standard Practice for Operation Procedures for Amusement Rides and Devices:

1. GENERAL RIDE OPERATION

The ride operation sequence is as follows:

A) Unlock entrance gate and load passengers
B) Secure restraints and lock the gate
C) Give verbal instructions / pre-operation safety check
D) Operate ride forward, coast to stop
E) Operate ride in reverse, coast to stop
F) Unlock restraints, unload / exit passengers

2. DESCRIPTION OF MOTION

The train of vehicles travels clockwise forward by ramping up to the speed indicated by the switch position (Low, Medium, High). During the ride cycle, the switch may be sequentially changed to experience all speeds (except Jog). Time should be allowed, however to permit ramp up to the next speed. A recommended duration is 30 seconds each on all three speeds in both directions. Passenger will experience centripetal acceleration (radially outward from center) and tangential acceleration in the direction of travel (forward or reverse).

3. LOADING PROCEDURES

The owner / operator of the ride may deny entry to the ride to any person, if in the opinion of the owner / operator the entry may cause above normal exposure to risk of discomfort or injury to the person who desires to enter, or if in the opinion of the owner / operator the entry may jeopardize the safety of other patrons or employees or jeopardize the fitness of the ride. Ride operators should be given guidelines on the special considerations concerning patron size, and the special considerations applicable to physically disable and mentally impaired persons.

No persons who appear to be under the influence of alcohol and/or drugs should be permitted on the ride. No pregnant women should be permitted on the ride. Children under 36 inches in height or under 3 years of age should be accompanied by an adult.

OPERATING PROCEDURES (CONT'D)

5. ENVIRONMENTAL RESTRICTIONS
(Out door Units Only)

The ride should not be operated in the rain, high winds, or other environment that reduces wheel traction, limits operator visibility, or causes slippery surfaces during loading or unloading.

6. SAFETY PROCEDURES

Besides the maintenance schedule, operators should perform the following safety procedures:

A) Pre-opening inspection
B) Pre-operation safety check
C) Pre-operation verbal instruction
D) Operational safety procedures
E) Post-operation procedure, instructions, and checks

7. PRE-OPENING INSPECTION

The operator should perform a daily pre-opening inspection prior to operation of the ride with guests. The following tasks should be performed:

A) Check all track section connections to Insure bolts are in place and tight, and that no gap exists between sections. The wheel bearing surfaces (tops, outside, and inside) should be smooth transitions with no step differentials. All track anchor bolts / nuts should be in place and tight, and not protrude up above the top of the track "feet" (3 x 1-1.2 channel pieces). The buss bar end caps should be aligned (vertically) and have a nominal 1/8 inch gap.

B) Check all wheels to ensure they are held correctly by their hardware (nuts, bolts, washers), and that they turn freely. Check for excessive wear, or deep gouges.

C) Check all wheels for excessive track clearance due to wear.

D) Check all safety cables and tow bar connections between cars to ensure proper attachment from car to car (safety clips in place, cables hooked, etc).

OPERATING PROCEDURES (CONT'D)

E) Check all safety restraints (lap bar mechanisms) for loose or missing components (nuts, bolts, washers, stops, etc.). check the performance of each lap bar for proper function (lock, unlock, smooth operation, proper cable pull / return, etc.) Check that the cable handles are tight to the body (no loose nuts).

F) Check all body bolts, nuts, and washers to ensure they are properly secured to the chassis assemblies. Verify that all bolts (including shoulder bolts) go through the brackets, and that there is no cracked fiberglass at the bracket edges.

G) Check the two drive cars to ensure that there are no loose fasteners, taper lock bushings, keyway keys, drive shaft to bearings, or other components such as motor mounts, tensioning devices etc. check belt tension by hand, and visually inspect for ear, frayed edges, misalignment, etc. Check the buss bar pickups for proper alignment and preload relative to the conductor rails (buss bars). Check for loose wires.

H) Check all electrical plugs and connections from field supply to control box to drive motors. Make sure there are no bare wires or wires that could be a trip hazard to guests or operator personnel. Make sure the control box door is properly secured. Make sure all electrical ground cables are securely fastened and properly installed.

I) If desired, the drive settings can be inspected by stepping through the drive menus, but this should only be done by personnel trained in the operation of the drive. Operate the ride at jog speed forward and reverse while empty. Observe and correct any abnormal activity such as metal to metal contact, noise, speed, vibration, heat, interference, etc. Operate the ride through the entire cycle while empty at all speeds forward and reverse, observing and correcting any abnormal activity as before.

J) Check the fenced off area and gate to ensure security and that only the operator can access the controls.

K) Check all decorative trim, canvas, signs, etc. for proper fastening. Check all special effects / lighting / audio components for function and safety. Clean the area and all cars of any debris or foreign matter which may cause discomfort to guests.

8. PRE-OPERATION SAFETY CHECK

Prior to operating the ride, the operator should assist anyone requiring assistance (small child) into the car, and shall circle the track inspecting each car to see that:

A) The heaviest guest is seated to the outside,

B) The lap bar is lowered and locked securely,

C) No one is inside the ride area unless they are in car.

9. PRE-OPERATION VERBAL INSTRUCTION

When guests pass through the gate and are being seated and secured in the cars, the operators shall:

A) Inform them that the largest rider in each car should sit to the outside,

B) Inform them as to which cars to load, based on evenly distributing weight around the circle, and small child height access for loading (some cars are lower to the ground).

C) Inform them to remain seated at all times, and that the ride will stop half way through and then go in reverse.

D) Inform them to keep their arms and legs inside the car at all time.

E) Inform them not to push on the lap bar at the end of the ride, and the he / she (operator) will be releasing the bar. Exit to the outside of car only.

10. OPERATIONAL SAFETY PROCEDURES

Once the pre-opening inspection, pre-operation safety check, and pre-operation verbal instructions are complete, the following procedures should be used for ride operation.

A) The operator should stand behind the control box, replace and latch the gate, insert the key into the key switch and turn the switch to the ON position. Select the FORWARD position on the direction switch, and the desired speed to initiate the ride (usually LOW). The operator shall give a verbal "ALL CLEAR" warning and depress the main power switch (green

button), and hold it down until the forward cycle is complete. The different speeds can be accessed by switching to the various speed positions. It is recommended that 30 seconds each be allotted for the three speeds (L, M, H), in increasing order. The operator shall ALWAYS face the ride and observe guests in the vehicles for abnormal behavior. The timer will cut power to the ride after 1-1/2 minute, or the operator may let off the main power switch to stop the ride early. Allow the ride to coast to a COMPLETE STOP. NEVER REVERSE THE TRAVEL (DIRECTION SWITCH) UNTIL IT HAS COMPLETELY STOPPED. Operators should be familiar with the stopping distances required based on the number and size of the guests. Avoid jogging the ride into a position with guests in cars. Change the duration of the reverse cycle.

B) Stop the ride by letting off the main power switch if anything out of the ordinary occurs, such as:

i) Lap bars being moved or raised.

ii) Guests attempting to stand up or hang out of the cars.

iii) Guests becoming ill or injured in some manner.

iv) Outside guests attempting to enter the fenced off area or sitting / leaning on the fence.

v) Guests attempting to vandalize or in any way damage the ride.

vi) Any unusual noises (metal contact) or any piece or part that comes loose or falls off the ride (nuts, bolts, etc.)

11. POST-OPERATION PROCEDURES, INSTRUCTIONS, AND CHECKS

The following should be done at the completion of each ride cycle by the operator :

A) Assist any guest requiring assistance in exiting a car.

B) Release each car's restraint system (lap bar).

C) Inform guests to watch their step and not to use the lap bar for support. Also inform them where to exit the fenced area (guests should not normally exit to the ride center).

OPERATING PROCEDURES (CONT'D)

D) Visually check each car for trash, debris, forgotten items, or anything else left behind so that the next guest will have a clan car.

E) Ensure that all guests have evacuated the fenced area.

F) In case electrical power is interrupted, do not restart the ride until a safety check has been performed.

Attend to the problem, perform a safety check (3.8), and restart the ride to complete or repeat the cycle. If a problem requires an extended time to fix, evacuate all guests from all cars immediately and evacuate all persons from the ride area. Equipment should include fire extinguisher(s), a first aid kit, a spare parts kit for minor problems (retaining pins etc.), and cleaning agents, sponges and towels for removal of any debris or guest accidents.

OWNER / OPERATOR'S REPSPONSIBILITY

Each owner/operator of an amusement ride or device shall read and become familiar with the contents of the manufacturer's recommended operating instructions and specifications. The owner/operator shall provide each ride operator and attendant with an operating fact sheet and a copy of the ride manual which shall include:

A) Ride operating policies and procedures.

B) A description of the ride operation.

C) Duties of the specific assigned position of the operator/attendant.

D) General safety procedures.

E) Additional recommendations of the owner/operator.

F) Specific emergency procedures in the event of an abnormal condition or an interruption of service.

The owner/operator shall provide training for each ride operator and attendant of the ride. This training shall include but is not limited to the following:

A) Instruction on the ride operating procedures.

B) Instructions on specific duties of the assigned position.

C) Instructions on general safety procedures.

D) Instructions on emergency procedures.

E) Demonstration of the physical ride operation, and supervised observation of the operator's physical operation of the ride.

F) Additional instructions as required or deemed necessary by the owner/operator.

TYPICAL MAIN CONTROL OPERATOR POSITION

The ride MAIN CONTROL OPERATOR POSITION is responsible for the operation of the ride.

1. Stand near the control console. Make sure you are able to reach the controls.

2. Make visual checks of the passenger vehicles as the ride is started or as they leave the station.

3. Be prepared to re-instruct Guests of the rider policies:
   Keep hands and arms inside vehicle
   Remain seated
   No smoking

4. Observe riders for improper behavior during loading, throughout the duration of ride, and during unloading.

TYPICAL LOAD / UNLOAD POSITION

1. Check for proper number of tickets/passes (at facilities that have pay-per-ride programs).

2. Enforce ride restrictions before entering the vehicle.

3. Direct Guests to proper vehicles.

4. Assist Guests into vehicles.

5. Explain riding instructions to the Guests:
   - Remain seated
   - Keep hands and arms inside vehicle at all times
   - Hold onto handrail at all times
   - No smoking

6. Observe Guests for proper behavior during the ride.

7. Assist Guests out of the vehicle when the ride is complete.

8. Direct Guests to the exit ramp.

TYPICAL TURNSTILE / GROUPER POSITION

NOTE: The turnstile position is not always manned. If the turnstile is not manned, the duties described here are covered by the Load Hosts/Hostesses. (Normally Operator duty)

1. Stand at the entrance to the loading station, between the turnstiles.

2. Enforce the rider policies.

3. If a Guest, who does not meet the height requirement, enters the station, notify the Load Host/Hostess.

4. Remind all riders to finish food, beverages, and smoking materials before proceeding into the loading station. Do not allow anyone to ride with such materials in use.

5. Remind Guests in the loading area and the visible queue area, when needed, not to sit on queue railings or fences. Enforce this restriction for their safety.

6. Ask each Guest as he/she reaches the turnstile, "Do you have a partner?" Allow him/her to pass through the turnstile as he/she indicates who that partner is.

7. When a single rider is found, have him/her stand to the side of the turnstile and pair him/her with the next single rider.

8. Do not force singles to pair up if they do not wish to do so.

9. Keep the flow of Guests into the loading station as constant and even as possible. If the platform becomes crowded, hold the line at the turnstile until room is available.

10. Correctly record the new turnstile readings each hour, on the hour, and calculate the hourly and cumulative totals. Initial the line on the Daily Operations Report (DOR).

11. If it is necessary to leave this position for any reason, notify the Load Hosts/Hostesses who will then assume the duties of the Turnstile position.

TYPICAL CROWD CONTROL

1. The purpose of the queue line is to keep the line orderly and in the ride area rather than out on the midway.

2. Open enough queues to keep the end of the line off the midway. At busy times, maximum queues may not accomplish this.

3. Monitor the line and change the queue as needed to handle fluctuations in the line.

4. Where chains are used to re-configure queues, be sure to fasten ALL chains that are not being utilized to their respective queue hooks. DO NOT allow chains to dangle. Check chains periodically throughout the day.

5. Once all queues are open, perform periodic checks of the entire queue area.

6. If Guests attempt to leave the line, advise them that they can only reenter at the end of the line.

7. If Guests attempt to bypass other Guests in line (line jumping), remove them from the line and advise them that they must go to the end of the line.

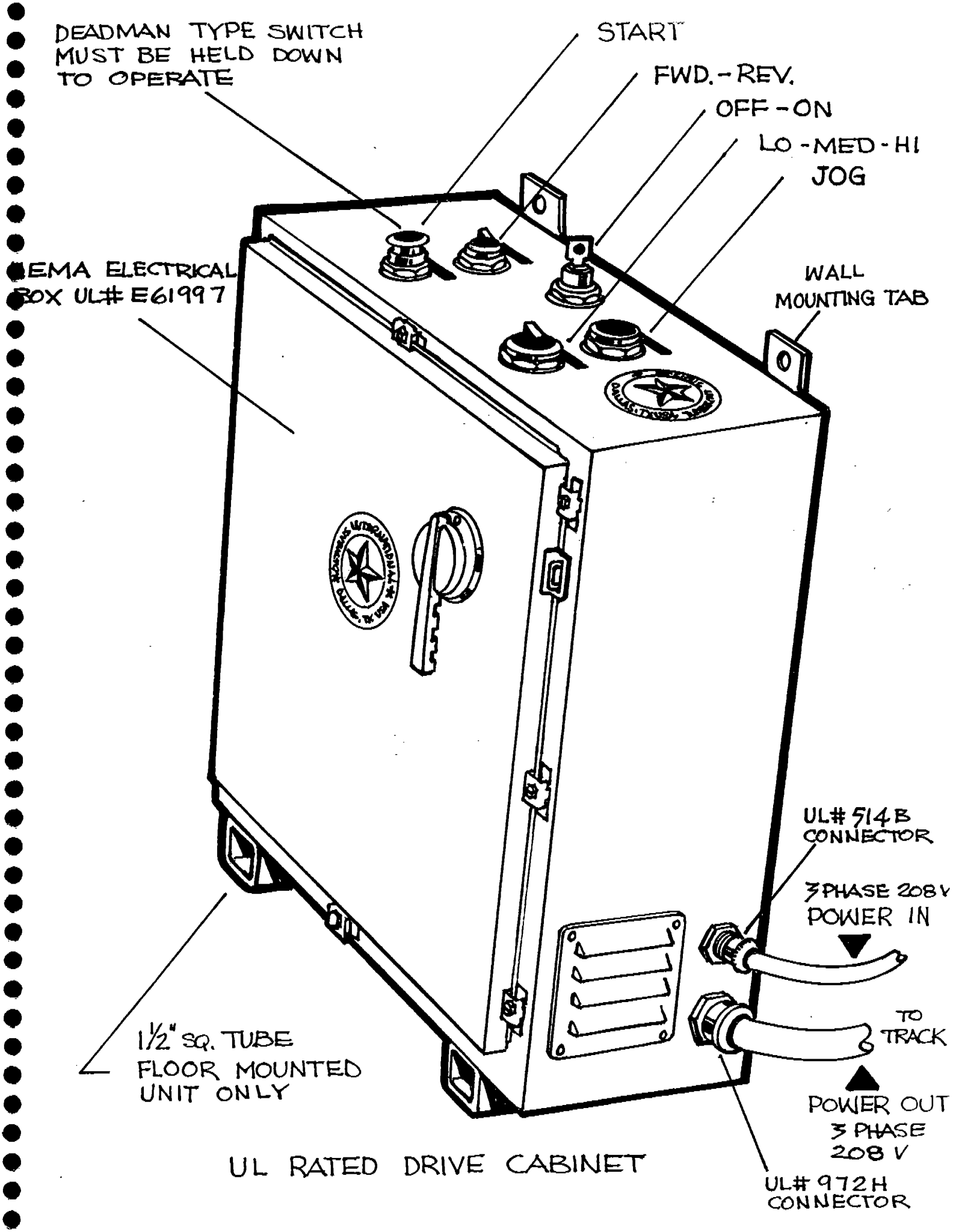
8. Contact the Security Officer in the ride area for assistance with Guests who refuse to follow the queue line policies.

9. Monitor the cleanliness of the queue area and the trash cans. When possible, push debris down into the cans. Use the trash liners when provided to empty trash cans when necessary.

10. Close off sections of queue as they become unnecessary.

11. Clean queue areas thoroughly as they are closed.

12. At closing, all Guests waiting in line should be permitted to ride.



UL RATED DRIVE CABINET

SAFETY GUIDELINES

GUIDELINES TO BEING A SAFE OPERATOR

Never leave the controls while the ride is in operation.

Never leave your ride unattended, even if no one is riding.

Do not attempt to service your ride while the ride is in operation.

Do not operate your ride unless the Maintenance Department has inspected and okayed it for operation.

Never overload your ride.

Do not allow intoxicated Guests to ride your ride. If a problem occurs, contact your foreman.

Do not ride on or on the side of trains. If a Guest requires assistance, offer the Guest help. Do not lift or carry the Guest.

Make sure all Guests are properly seated and secure before dispatching a train.

Observe the Guests at all times while boarding the ride, during the ride, and while exiting the ride.

Always enforce all restrictions fairly and firmly.

SAFETY POLICIES

A. In general, each Host/Hostess should think and act safely. The Guests may not be thinking about their safety, so each Operator must take on the responsibility of helping our Guests think about their safety.

B. Each Operator should pay attention to everything happening to the ride. This includes knowing the location of all the ride units. Each Operator should anticipate potential problems or try to prevent them before they occur. If an Operator sees an unsafe or potentially dangerous situation or any equipment malfunction, he/she should immediately report it to the person in charge of the ride.

C. Horseplay consists of any potentially dangerous activity not involved in the operation of the ride. Examples of horseplay are: throwing water, wearing improper customer, playing with fire extinguishers, scuffling or throwing objects at one another. Horseplay is not safe. All crew members should remember this and should not become involved in any type of horseplay. Involvement in horse play will result in disciplinary action.

D. If an Operator is ever in doubt about the safety of the Guests, other employees or equipment, he/she should immediately stop the ride and call the Operations Office.

SAFETY GUIDELINES (CONT'D)

E. The number of position assignments may vary with the Supervisor's approval. The decision may be based on crowd size and the needs of the department.

F. The Control position must always be occupied when the ride is in motion. If the ride is not running but Guests are present on the platform, a Host/Hostess must still occupy the control booth (i.e., the ride has been down a long time due to rain and Guests are still in the station area).

G. The ride area must be clear of all Guests and crew members before the ride is started and during its cycle.

H. Do not start or restart a ride without knowing the location of all other employees.

SAFETY CHECKLIST

The following safety checklist is a sample of the checks that should be completed daily before opening. The checklist is a very important tool to verify that different aspects are properly working and in place.

The checklist will be divided into three sections:

- General Safety
- Unit Safety
- Safety Test

After the safety checklist has been completed, the ride/attraction should be ridden and signed off as O.K. to operate. The ride/attraction should be visually checked at a later time each day and signed off again.

OPERATIONS SAFETY CHECKLIST

I. General Safety		YES	NO
A.	Has the Maintenance Department signed off on the sign-off sheet?	_____	_____
B.	Has supervisor signed off on the sign-off sheet?	_____	_____
C.	Are all fire extinguishers in place, properly charged, and with current inspection tags intact?	_____	_____
D.	Do ride phones and P.A. system work properly?	_____	_____
E.	Are any turnstiles operating improperly?	_____	_____
F.	Are all queue rails and chains intact with chains hooked properly?	_____	_____
G.	Are entrance and exit ramps or stairs in good condition and clear of obstruction?	_____	_____
H.	Are all perimeter gates closed and locked?	_____	_____
I.	Are all employee stairs, walkways and gates intact and clear of obstructions?	_____	_____
J.	Is control booth clean and clear of debris?	_____	_____
K.	Is track clear of all personnel?	_____	_____
L.	Do all controls and panel lights illuminate?	_____	_____
M.	Are height sticks in good condition and correct length?	_____	_____
N.	Are garbage bags or garbage obstructing the ride area?	_____	_____

SAFETY CHECKLIST EXAMPLE (CONT'D)

II. Unit Safety		YES	NO
A.	Are lap bars or safety belts operating?	_____	_____
B.	Are seats and cushions in good condition?	_____	_____
C.	Are lock cables between cars intact and plugged in?	_____	_____
D.	Are trains cleaned of debris?	_____	_____
E.	Are cars free to rough, jagged edges?	_____	_____

DAY FOREMAN: I was present during block checks and all were in working order.

PRINT NAME	SIGNATURE	TIME
PRINT NAME	SIGNATURE	TIME
PRINT NAME	SIGNATURE	TIME

IMPORTANT OFFICE LOCATIONS AND PHONE NUMBERS

Before the opening of the Ride/Attraction, locate and be able to direct Guests to the following offices:

Guest Relations

First Aid

Security

Park Exit

Restrooms

Public Telephones

RIDER POLICIES EXAMPLE

1. No food, drinks, or smoking allowed on the ride.

2. No glass objects are allowed on the ride.

3. No spitting or throwing objects from operating units is allowed on the ride.

4. All Guests must wear shirts and shoes.

5. No activities that might distract the operator(s) are allowed.

6. No leaving a unit during the ride cycle--either while the unit is moving or has stopped--unless advised to do so by Park Personnel.

7. Guests who cannot sit under restraining devices are not allowed to ride.

8. Guests must remain properly seated in operating units during the ride cycle.

9. Guests must keep arms, legs, hands, and feet inside the operating unit at all times.

10. Guests must properly wear all restraining devices at all times during the ride cycle.

11. Guests must remain behind the safety line until otherwise directed by a Host/Hostess.

12. Guests must secure all loose objects, such as hats, glasses, purses, etc.

13. Each Guest riding in a seat must be able to sit flush on the seat bottom and flush against the back, not on another Guest or twisted in the seat.

LOCKOUT PROCEDURES

Note: Lockout procedures should be designed in accordance with local/governmental requirements.

INTRODUCTION

Purpose

To establish procedures to protect personnel in situations where the unexpected start up or energizing of equipment would be likely to endanger them.

Responsibilities

1. It is the Park Maintenance and/or Operations Department's responsibilities to provide each employee (who is qualified to perform work on equipment) with a tag, lock, and key. No two locks should be openable by the same key. The Maintenance and/or Operations Departments should compile and retain a master list of lock/key numbers for each lock issued by the Department.

2. The Maintenance Department should identify each power device, piece of equipment, or ride that could pose a hazard if unexpectedly energized. It should then label the point or points that need to be locked out, such as the main disconnect switch, lever, or valve. Devices that are connected to their power source by a cord and plug do not need to be labeled.

3. All employees should be trained on the lockout procedures. Thereafter, it is the worker's responsibility to know and follow the procedures.

4. Periodic checks should be made to ensure that these procedures are followed.

5. Any employee who observes another person not following these procedures should inform that person's manager.

GENERAL PROCEDURES

1. Prior to starting repair work, the regular operator(s) of the equipment should be alerted that the equipment is about to be shut off.

2. Any person who intends to work on a piece of equipment should lock that piece of equipment with his tag and lock before attempting to perform any work. The lock should be placed where indicated or labeled. Cord and plug-connected equipment should be unplugged from the source of power.

LOCKOUT PROCEDURES (Cont'd)

3. Furthermore, the worker should try to measure (using a voltmeter, for example) the equipment to assure that the lockout procedure was effective.

4. Once a task is completed by a worker, that person should remove his lock and tag. No one should remove someone else's lock, except as outlined below.

5. When all work is complete, and before removing the last lock, the worker should make sure that all guards and safety devices are in place, and inform the operator of the equipment that the lock is to be removed.

6. If repair work is to be continued later by the same worker, then the lock should be left on the equipment.

7. If work is to be continued by another worker, (such as at the end of a shift), then the retiring shift worker should remove his lock, and the oncoming shift worker should immediately lock out the equipment.

UNREMOVED LOCKS AND LOST KEYS

1. If a worker forgets to remove his lock and leaves the area, his manager should be required to approve cutting off the abandoned lock. The manager should only do this after:

   (a) Attempting to contact the worker by radio and telephone, both at work and at his home, and

   (b) Inspecting the equipment and establishing that it is safe to restart it.

2. If a key to a lock seems to be lost beyond recovery, the person should notify his supervisor. The supervisor should destroy the lock and issue the person a new lock and key.

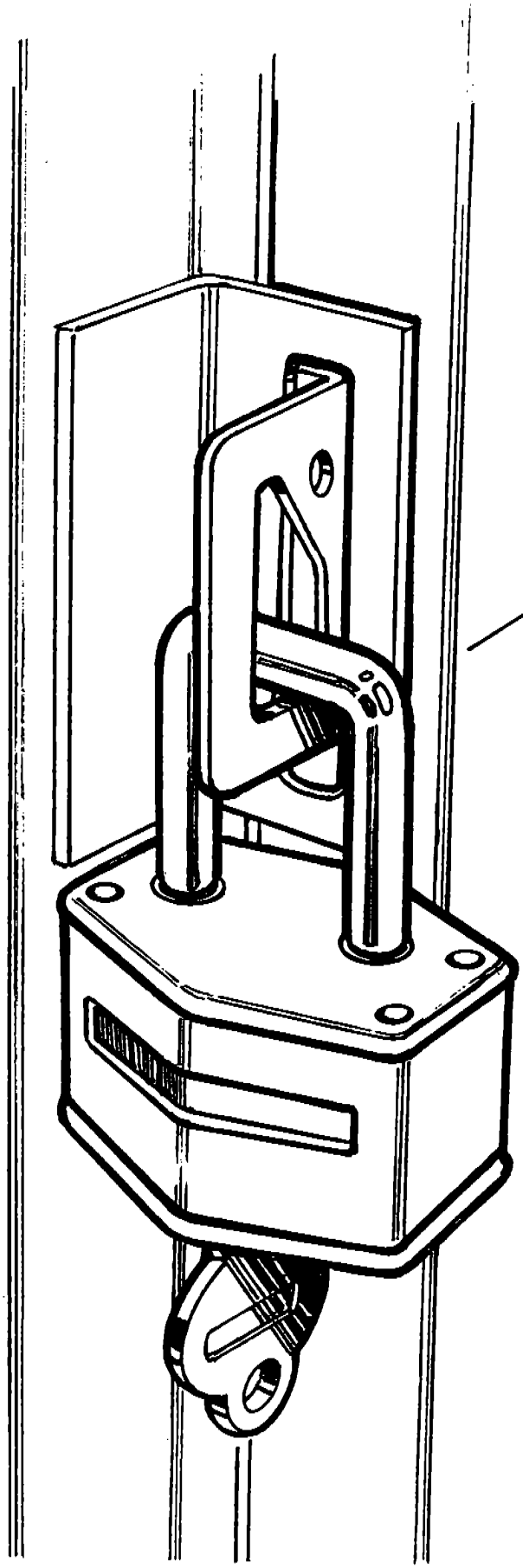
LOCKOUT PROCEDURES (Cont'd)

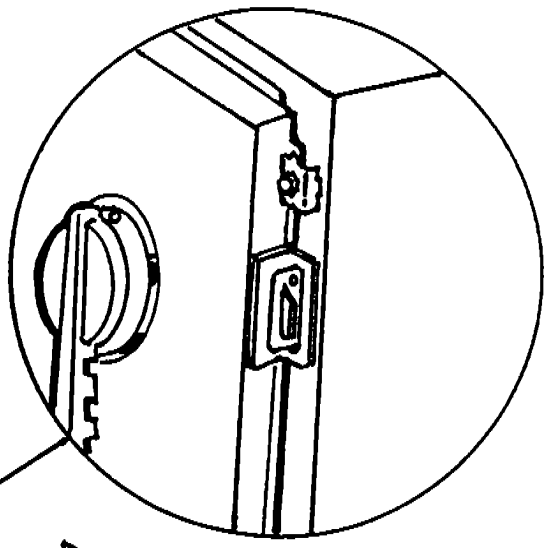
OSHA LOCKOUT RULING

1910.147

The employer shall provide training to ensure that the purpose and function of the energy control program are understood by employees, and that the knowledge and skills required for the safe application, usage, and removal of energy controls are acquired by employees. The training includes the following areas:

- Recognizing hazardous energy sources (7)(i)(A)
- Purpose and use of the energy control procedures (7)(i)(B)
- Prohibition relating to attempts to restart or re-energize machines or equipment which are locked out or tagged out (7)(i)(C)
- Limitations of tags (7)(ii)(A-F)
- Employee retraining has been accomplished and is being kept up to date (7)(iv)





DRIVE CABINET EXTERIOR LOCK LOCATION

MASTER TYPE LOCK WITH KEY IS RECOMMENDED FOR DRIVE CABINET SAFETY

DRIVE CABINET EXTERIOR SAFETY LOCK

TRAINING AND CERTIFICATION

OWNER / OPERATOR RESPONSIBILITY

The Proper training of all employees is one of the most critical components to offering a safe and entertaining park. With proper training and proper documentation, the park can be assured that the highest quality employees are being offered to service the guests.

This is an important section of a ride/attraction operations manual which should outline the steps of proper training and certification of operations and employees. This section will assist the facilitator of the training program and give the employee a guide to the necessary information to which he/she will be exposed.

Included in this section should be the following:

Operation of Personnel

It is very important that each employee be introduced to the facility by quality orientation. The employee should go through a park-wide orientation which explains park philosophy, and a specific department orientation to help acquaint the employee with specific department policies and procedures.

Training of Personnel

The proper training of each employee will help assure that the park has the highest quality employee possible.

Training Outline

This section should offer an outline to follow regarding the information to be covered during on-the-job training. A general outline addressing general park policies and a specific outline which addresses information regarding the work location to which the employee has been assigned should be used.

Testing of Employees

The testing of employees will help assure the management staff that the employee assigned to the location has adequate working knowledge of the assigned work location. The test is not necessarily a pass or fail, but a tool to help areas in which the employee requires additional training.

Certification of Employees

After testing is completed, the employee will become a certified employee of that work location.

MSDS (where required)

The Occupational Safety and Health Administration provides standards for the Employees' Right-To-Know Program. It requires us to evaluate chemical hazards in your work place and make this information available to you. The Right-To-Know- Program in some countries (USA) is very important legislation and should be included in all training materials. This section will help cover the basic requirements to comply with federal legislation.

DAILY INSPECTION AND CHECKLIST

This section should cover information regarding the daily checklist and inspections:

- Daily Sign-Off

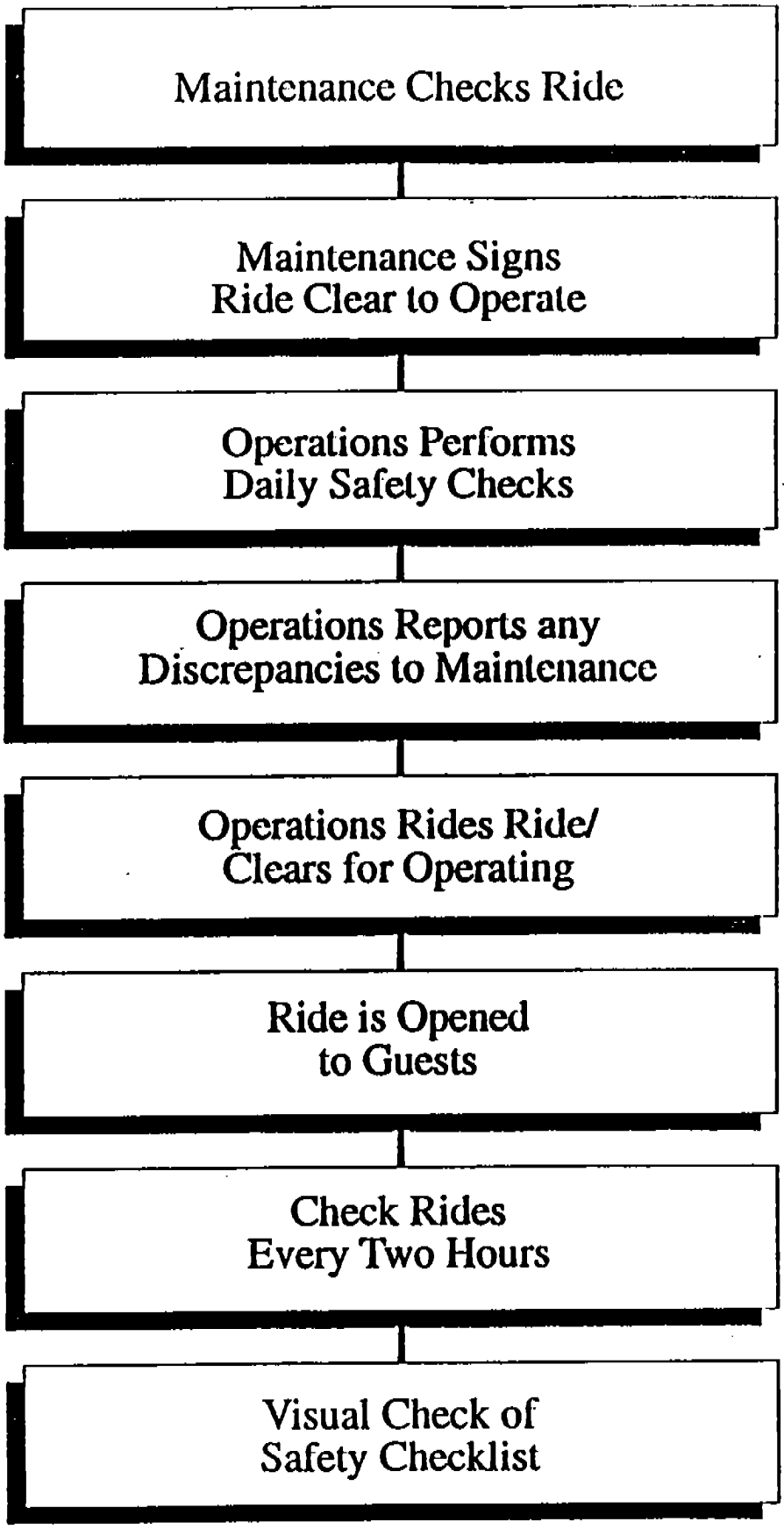
  The daily sign-off sheet should enable the operator to know when all appropriate departments have cleared the ride/attraction for operation. The operator should not start any checks before verifying that all proper maintenance personnel have cleared the ride/attraction.

- Daily Inspection

  The daily inspection of any ride / attraction is one of the most important tasks that an operator will perform in regards to preventing possible safety problems. The examples of a safety checklist will act as a guide when creating an appropriate checklist for an individual ride.

- Unit Log

  The daily unit log will help track ride/attractions units that are in need of repair or have been repaired. This will enable the operator to know when a unit can be put back into operation and will also assist the Maintenance Department in tracking problem units.


Maintenance Checks Ride
Maintenance Signs
Ride Clear to Operate
Operations Performs
Daily Safety Checks
Operations Reports any
Discrepancies to Maintenance
Operations Rides Ride/
Clears for Operating
Ride is Opened
to Guests
Check Rides
Every Two Hours
Visual Check of
Safety Checklist

PRE-OPENING INSPECTION

Please refer to the manual for more detail information regarding daily inspections.

Track:

1. Check all track feet to the ground via anchor bolts.
2. Check all transition areas between sections of track that exceed 0.06 step height differential on wheel bearing surfaces.
3. Check all transition areas between sections of track that exceed 0.12 inch on non-wheel-bearing surfaces.

Chassis:

1. Check wheel nuts and bolts.
2. Check locknuts per fastener schedule.
3. Check all wheels for correct hardware and that they turn freely.
4. Check all wheels for excessive ground loss.
5. Check all safety cables and tow bar connections.
6. Check all safety restraints for loose or missing components and that each safety restraint is working properly.
7. Check all body bolts, nuts and washers to ensure they are properly secured to the chassis assemblies.

Drive/Electrical System:

1. Check all electrical plugs and connections.
2. Check buss bar end caps.
3. Check end cap brackets.
4. Check wiring from buss bar pickups to the drive motors.
5. Check alignment of the pickups.
6. Check conductive pickup shoes.
7. Check two drive cars to ensure that there are no loose fasteners, taper lock bushings, keyway keys, drive shaft bearings and other components.
8. Check all breakers, overloads and fuses.

Body/Restraint System:

1. Check all body nuts and bolts.
2. Check safety clips.
3. Check shoulder bolt/front body bolt.
4. Check bushings in the lap bars.
5. Check lap bar lever.
6. Check all lap bar nuts and fasteners.
7. Check all springs on the rear of the lock shaft.
8. Check all cables.
9. Check all lap bar padding.

General:

1. Check all fencing and gates to ensure each are properly secured.
2. Check all signage.
3. Check all warning labels.
4. Check fiberglass body for damage.
5. Check all anti-skid pads or rubber mats.

MONTHLY INSPECTION

Refer to the manual for a detail breakdown of the following inspection.

Track:

1. Daily pre-opening inspection should be maintained.

Chassis:

1. Torque requirements listed on the fastener schedule should be verified.
2. Urethane tread should be inspected on the chassis for wear or gouges.
3. Wheels should be lubricated with lithium based grease.
4. Check drive car chassis, tighten nuts and bolts securing pillow blocks/drive shaft bearings.
5. Adjust alignment of the two sprockets per car assembly drawings including proper belt tensions.
6. Check drive belt if necessary.
7. Check all tow bar bolts, nuts and replace safety slip rings.
8. Check rod ends and replace if showing signs of excessive wear.
9. Check for loose or worn safety cables/hooks linking cars together.

Drive/Electrical System:

1. Drive/electrical system shall be maintained on a daily inspection basis, including a continuity check once a month, to be preformed with the power off.

2. Check all values to ensure no one has reset the values (check value setting chart).

OPERATIONS SAFETY CHECKLIST

I. General Safety		YES	NO
A.	Has the Maintenance Department signed off on the sign-off sheet?	_____	_____
B.	Has supervisor signed off on the sign-off sheet?	_____	_____
C.	Are all fire extinguisher in place, properly charged, and with current inspection tags intact?	_____	_____
D.	Do ride phones and P.A. system work properly?	_____	_____
E.	Are any turnstiles operating improperly?	_____	_____
F.	Are all queue rails and chains intact with chains hooked properly?	_____	_____
G.	Are entrance and exit ramps or stairs in good condition and clear of obstruction?	_____	_____
H.	Are all perimeter gates closed and locked?	_____	_____
I.	Are all employee stairs, walkways and gates intact and clear of obstructions?	_____	_____
J.	Is control booth clean and clear of debris?	_____	_____
K.	Is track clear of all personnel?	_____	_____
L.	Do all controls and panel lights illuminate?	_____	_____
M.	Are height sticks in good condition and correct length?	_____	_____
N.	Are garbage bags or garbage obstructing the ride area?	_____	_____

SAFETY CHECKLIST EXAMPLE (Cont'd)

II. Unit Safety	YES	NO
A. Are lap bars or safety belts operating?	_____	_____
B. Are seats and cushions in good condition?	_____	_____
C. Are lock cables between cars intact and plugged in?	_____	_____
D. Are trains cleaned of debris?	_____	_____
E. Are cars free to rough, jagged edges?	_____	_____

II. Safety Test

NOTE: Proper checks warnings, or advisories should be given prior to starting ride or cycling units on all rides that have areas not easily viewed from the control panel.

	YES	NO
A. Have applicable block checks and other operational tests been performed?	_____	_____

_____
DATE

DAY FOREMAN: I was present during block checks and all were in working order.

PRINT NAME	SIGNATURE	TIME
_____	_____	_____

DAY FOREMAN: I was present during block checks and all were in working order.

PRINT NAME	SIGNATURE	TIME
_____	_____	_____

DAY FOREMAN: I was present during block checks and all were in working order.

PRINT NAME	SIGNATURE	TIME
_____	_____	_____

SAMPLE DAILY SIGN-OFF SHEET

(RIDE/ATTRACTION)

By signing below, both the maintenance mechanic and ride operator assigned to the ride certify that all inspections, service and testing have been completed as specified.

MAINTENANCE	DATE	OPERATIONS	DATE

EQUIPMENT REVIEW & APPROVAL

In that certain contract dated _____, attached hereto, _____ _____ contracted to purchase the folowing rides(s) / game(s) / equipment:

EQUIPMENT	MFG	SIZE	SERIAL#	PRICE
•				$
•				$
•				$
•				$
•				$_____
TOTAL PURCHASE PRICE				$_____

RIDE INSPECTION

--	Operation's Manual	--	Ride Clearance
--	Operator Training Program	--	Correct Grade of Bolts
--	Manufacturers Data Plate	--	Fasteners & Safety Clips
--	Electricial Circuit Grounding	--	Retaining Safety Cables
--	Electricial Undercar Brushes	--	Seat Conditions
--	Fused Electricial Disconnect	--	Lap Bar
--	Suppoort Structures / FLoor Bolts	--	Fiber Glass
--	Clearance Vehicles to Frame	--	Steps
--	Hitches Between Cars	--	Free of Hazardous Projections
--	Leveling / Blocking of Track	--	Emergency Stop Switch
--	Wheels to Track	--	Electric Brakes
--	Wheels to Side Stop	--	Wires
--	Wheels to Upstop (Bolts/Clearance)	--	Axles - Drive Cars

CLIENT SUPPLIED

	Maintenance Daily Log	--	Egress	--	Warning Signs
--	Fire Extingusher	--	Ramps	--	First Aid
--	Smoke Detectors	--	Platforms	--	Heights
--	Emergency Lighting	--	Fences	--	Operator ID Badge

RIDE LOCATION

As authorized representative of _____, I hereby certify that the Equipment has been installed and situated in accordance with my instructions and to my satisfaction. I have reviewed each of the items checked off above with DII technician _____ prior to signing below.

EXECUTED THIS _____ DAY OF _____, 19____.

BUYER: _____

BY: _____ TITLE: _____

ADDITIONAL COMMENTS RE: SUPERVISOR(S): _____

_____

_____

_____

MAINTENANCE PROCEDURES

The following information is provided in accordance with ASTM F853-91, Standard Practice for Maintenance Procedures for Amusement Rides and Devices.

1. TRACK

The track is included in the daily pre-opening inspection and should be maintained when discrepancies are found. Maintenance on the track shall include:

A) Tighten any loose nuts which hold the track feet to the ground via the anchor bolts. Remove and replace any loose anchor bolts. Consult the factory for the correct chemical anchor components and methods to be used.

B) Tighten any loose bolts / nuts which hold the track sections together torque specification 188 ft lbs. Replace locknuts after the number of removal times specified on the fastener schedule.

C) Fix any transition areas between sections of track that exceed 0.06 inch (1/16") step height differential on wheel bearing surfaces. Fix any transition areas between sections of tract that exceed 0.12 inch (1/8") step height differential on non-wheel bearing surfaces. Application of an epoxy based fairing compound and subsequent sanding is permissible. Consult the factory for the correct materials and processes to be used.

2. CHASSIS

Chassis components are included in the daily pre-opening inspection and components should be maintained when discrepancies are found. Maintenance on the chassis shall include:

A) Tighten all nuts and bolts that secure the wheels. Replace any locknuts after the number of removal times specified on the fastener schedule. Torque requirements listed on the fastener schedule should be checked once a month (1/2" bolts 66 ft. lbs holds the thread torque nut). Ensure that the wheels spin freely (no binding). Urethane tread should be inspected once a month for wear or gouges. Replace wheels when the outer diameter does not exceed the following:

i) 5.00 inch (outer) drive or non-drive ..... 4.75 inches
ii) 4.63 inch (inner) drive or non-drive ..... 4.38 inches
iii) 3.50 inch stop wheels ..... 3.38 inches

Wheels shall be lubricated with a lithium based grease when found to be deficient on a pre-opening inspection (squeaking etc.) or once a month. Bearings are to be replaced unless grease fittings are provided. Consult the factory for the correct materials and methods.

MAINTENANCE PROCEDURES (CONT'D)

B) Drive car chassis shall be inspected once a month. Tighten nuts and bolts securing the pillow blocks / drive shaft bearings. Tighten set screws on the bearings to the drive shaft. Tighten nuts holding the drive wheels to the shaft. Lubricate all drive shaft bearings with a lithium based grease. Tighten all taper lock bushings on the drive and driven sprockets. Tighten all keys in keyways on the drive sh aft wheels and bearings and on the sprocket bushings. Adjust alignment of the two sprockets per the drive car assembly drawing, including proper belt tension. Replace drive belt if it is visibly worn, cut, delaminated, or otherwise deformed. Tighten the motor mount nuts and bolts. Replace locknuts after the number of removal times specified on the fastener schedule.

C) Tighten all tow bar bolts and nuts and replace the safety clip rings. Tighten all jam nuts securing the rod ends to the chassis tow bars. Replace any rod ends showing signs of excessive wear. Replace any loose, worn, or defecive safety cables / hooks linking cars together. Tow bar / safety cable links should be thoroughly inspected weekly.

3. DRIVE / ELECTRICAL SYSTEM

The drive / electrical system is included in the daily pre-opening inspection and should be maintained when discrepancies are found. Maintenance on the drive / electrical system shall include:

A) Secure all electrical plugs and connections from field supply to the control box, to the drive motors. Insulate or replace any bare wires. Reposition and secure any wires that could present a trip hazard to guests or operator personnel. Buss bar end caps shall be repositioned to a nominal 1/8 inch gap and aligned vertically to match the adjacent end cap. Tighten all nuts and bolts securing the end cap brackets (8) and the conductor rail brackets (76). Repair or replace any damaged connectors between sections. Repair or replace any loose or exposed wires from the buss bar pickups to the drive motors. Adjust the alignment and reload of the pickups both vertically and horizontally to ensure proper centerline tracking between rails and pickups. Replace any worn conductive pickup shoes (copper / graphite). The drive / electrical system shall be maintained, including a continuity check once a month, to be performed with the power off.

B) Tighten all terminals inside the control box. Repair or replace any loose or frayed wires. Perform a continuity check on all breakers, overloads, and fuses with the power off. Tighten all switch connections and contact mount screws. Tighten all switch mount connections to the enclosure.

C) Review through the function and monitor parameters in the drive once a month to ensure no one has reset values. The values for the parameters are as follows:

on the frame. Replace locknuts after the number of removal times specified on the fastener schedule. Replace any broken, bent, or damaged springs on the rear of the lock shaft. [Adjust the first jam nut and washer to allow for the correct spring return for lap bar open positioning. Tighten the second jam nut to secure the stop position. Lubricate the shaft travelling through the lock cylinder with grease.]

C) Tighten the nuts securing the threaded cable handle shaft to the fiberglass body / frame. Tie off the cable to the frame so the cable is secure, but doesn't sharply bend at any point. Replace any broken, bent, or worn cable end fittings. Tighten the nut securing the cable end fitting to the lock lever bracket. Tighten the brass stop at the correct length along the cable to permit full travel of the clamping block without any excess length (slop).

D) Replace any substantially damaged or worn lap bar padding (enough to cause contact with the steel tube bar). Replace any worn or damaged warning labels. Tighten the nuts securing the body nose cones to the main body. Snap the nose cone edge trim pieces firmly onto the nose cone lips. Apply adhesive to repair, or replace any loose or won anti-skid pads or rubber floor mats. Minor scratches in fiberglass can be buffed out by using a fine grit auto rubbing compound and following up with a coat of wax. Deep scratches (deeper than the gel coat) call the factory for a repair kit. State color required. Cracks due to mishandling or abuse can be repaired from underside using fiberglass mat and activator. Be sure surface is clean and dry. Consult the factory for proper materials and processes. Clean fiberglass with a soft cloth and a mild liquid detergent. Do not use scouring powder, steel wool or an abrasive cleaner as this will dull the surface.

FUNCTION	VALUE	FUNCTION	VALUE
F00 VFE-VC	F12	SPEED-1	020.0Hz
F01 ACCEL	0008.0 Hz	F13 SPEED-2	N/A
F02 DECEL	0009.0 Hz	F14 SPEED-3	040.0Hz
F03 +FMAX	0000.0 Hz	F15 F22	N/A
F04 FMIN	0000.0 Hz	F23 E-THERM	100%
F05 H-LIM-F	0060.0 Hz	F24 ACCLINE	S-CURVE
F06 L-LIM-F	0000.0Hz	F25 DECLINE	S-CURVE
F07 F11	N/A	F26 F36	N/A

MONITOR	VALUE	MONITOR	VALUE
FM	000.00 Hz	IF. . .A IM	000.0%
FS	000.00 Hz	V Boost Code	<16> *
F-SET-M	OPE-KEY	V-GAIN	100%
F/R SW	TERMINAL	JOGGING	009.0Hz
RPM 4P	00000 PRM	# (RESERVED FOR ERROR MSG)	

* This value varies from ride to ride. Consult the factory for the proper setting for your ride.

These values are set at the factory and should not be modified under any circumstances unless specifically instructed to do so by an authorized factory representative.

4. BODY / RESTRAINT SYSTEM

The body / restraint system is included in the daily pre-opening inspection and should be maintained when discrepancies are found. Maintenance on the body / restraint system shall include:

A) Tighten all body nuts and bolts. Replace locknuts after the number of removal times specified on the fastener schedule. Verify that the bolts go through both the chassis holes and body bracket holes completely. Replace safety clips (if any) when tightened. Tighten the shoulder bolt / front body bolt that goes through the lap bar, frame, and front body bracket. Verify that the main body of the bolt goes through al these completely (not just the threaded portion). Replace any worn or split bronze bushings in the lap bars.

B) Tighten the nut / bolt connecting the lap bar lever to the rod end. Replace any worn or split bronze bushings in the lap bar lever hole. Replace locknut after the number of removal times specified on the fastener schedule. Replace safety clips (if any) when tightened. Tighten the jam nut securing the rod end to the lock shaft. Tighten the four nut / bolts securing the lock to the lock pivot bracket. Tighten the nut / shoulder bolt securing the lock assembly to the pivot bracket

OWNER/OPERATORS RESPONSIBILITY - MAINTENANCE

Each owner / operator of an amusement ride or device shall read and become familiar with the contents of the manufacturer's maintenance instructions and specifications when received. Based on the manufacturer's recommendations, each owner / operator shall implement a program of maintenance, testing, and inspections providing for the duties and responsibilities necessary in the care of amusement ride or device. This program of maintenance shall include a checklist to be made available to each person performing the regularly scheduled maintenance on each ride or device. The owner / operator's checklist (on a ride-to-ride basis) shall include but not be limited to the following:

A) Description of preventative maintenance assignments to be performed.

B) Description of inspections to be performed.

C) Special safety instructions, where applicable, and any additional recommendations of the owner / operator.

The owner / operator of the amusement ride or device shall provide training for each person performing the regularly scheduled mantenance on the ride or device, pertaining to their duties. This training shall include, but not be limited to the following:

A) Instruction on inspection and preventative maintenance procedures.

B) Instruction on the specific duties of the assigned position.

C) Instruction on general safety procedures.

D) Demonstration of the physical performance of the assigned regularly scheduled duties and inspections.

E) Supervised observation of the maintenance persons physical performance of their assigned regularly scheduled duties and inspections, and any additional instructions deemed necessary by the owner / operator.

The owner / operator of amusement rides or devices shall have an inspection program consistent with the inspection outlined in ASTM Practices F24 amusement rides and devices. Inspection documents deemed appropriate by the owner / operator to be maintained in the ride file shall be filed according to the procedures outlined in ASTM F24.

The owner / operator of an amusement ride or device shall promptly notify the manufacturer of an incident, failure or malfunction which, in his judgment, seriously affects the continued proper operation of the ride or device and is information of which the manufacturer should be aware.

INSTRUCTIONS FOR INSTALLING THE CIRCULAR TRACK RIDE

The track/chassis should be installed with a minimum running clearance of 35 inches from any obstruction outside/inside the track area.

The four sections of track should be assembled and held together by two 3/4" bolts/nuts joining the sections of track together. See track assembly drawing.

Next you should raise each section of the track to place the isolation pads under each support leg of the track. Each section of the track that is joined together by the 3/4" bolt should be torqued to its proper setting (188 ft. lbs. holding the bolt head while turning the nut).

The track should be anchored to the floor by using chemical treated 3/4" anchor bolts in the holes provided in the track support legs. Be careful not to tighten the anchor bolts too much as this could destroy the isolation pads.

Check the track joints for smooth joint alignments and the buss bar system for the electrical feed to the cars.

The junction box should be placed under the track but across from the electrical control panel. Bear in mind that the control box must also be located where the operator can operate, observe and police the ride from one spot.

Chassis can now be placed on the track one at a time. They are connected to each other by rod, yoke and bolt with a safety pin.

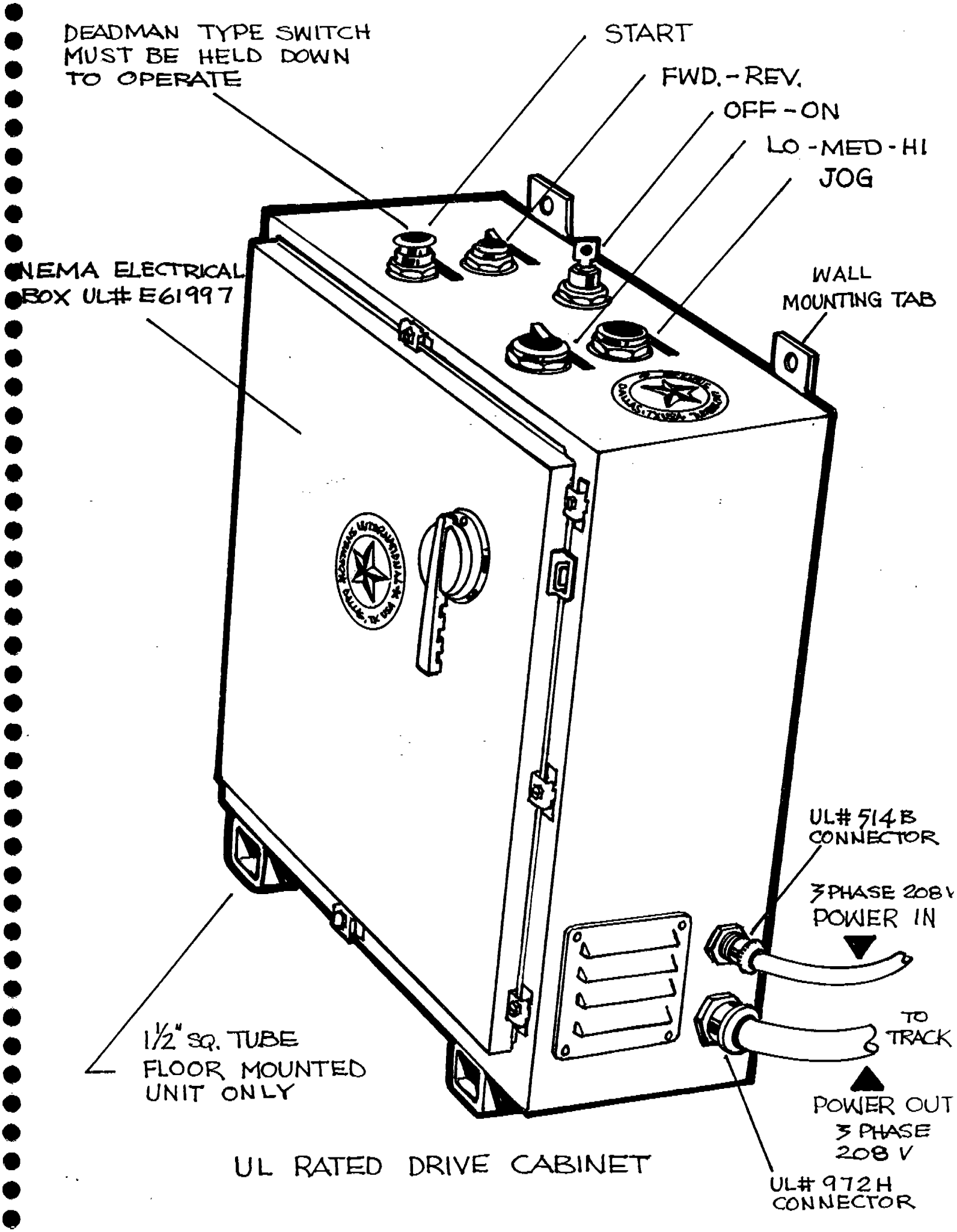
Each yoke car should also be tied together with a safety cable. Running clearances of all rollers, i.e., inside rollers, outside rollers and upside rollers, should be checked.

Once the track and cars have been properly connected and aligned and all electrical wiring checked, you should check for proper voltage (208/230 3 Phase) to the control panel.

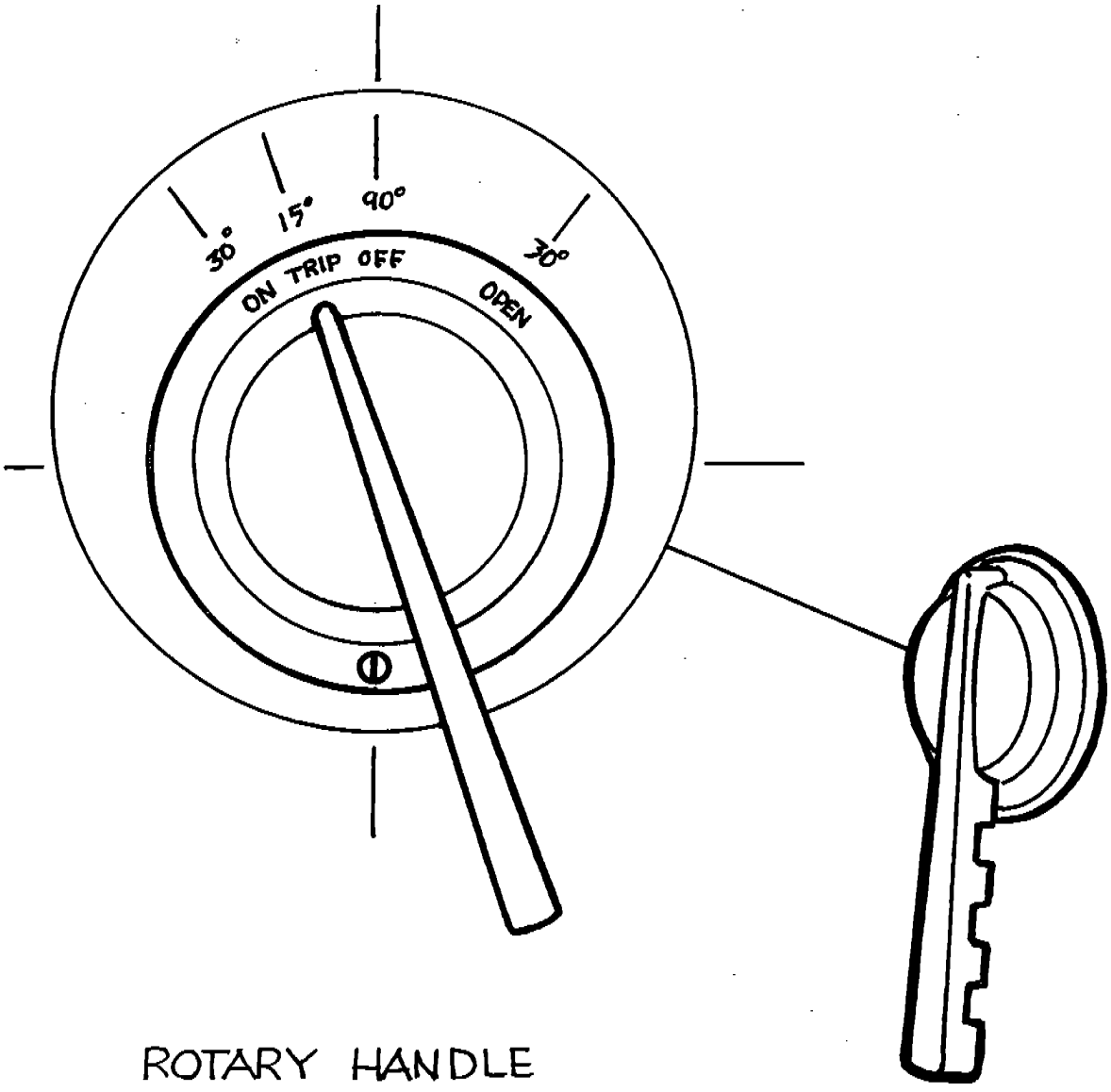
Once proper voltage has been established, check the parameters on the inveter panels for proper setting. Running clearance can now be checked by operating the ride on the JOG switch in both the forward and reverse directions.

If there were no problems with the running clearance, test the ride with no load for about 2 hours, stopping and checking the bolts, joints, chassis and electrical connection periodically.

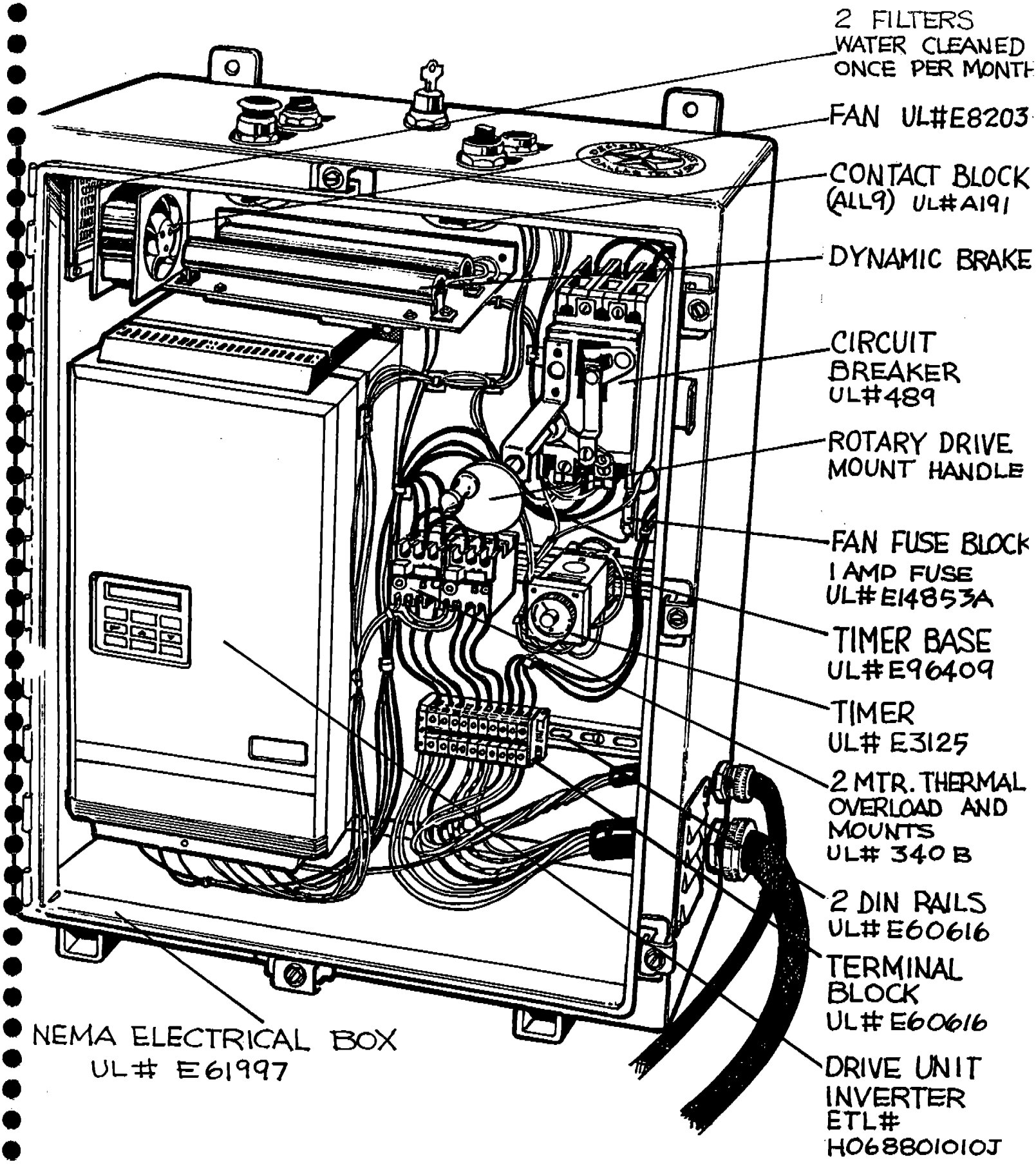
I. ELECTRICAL



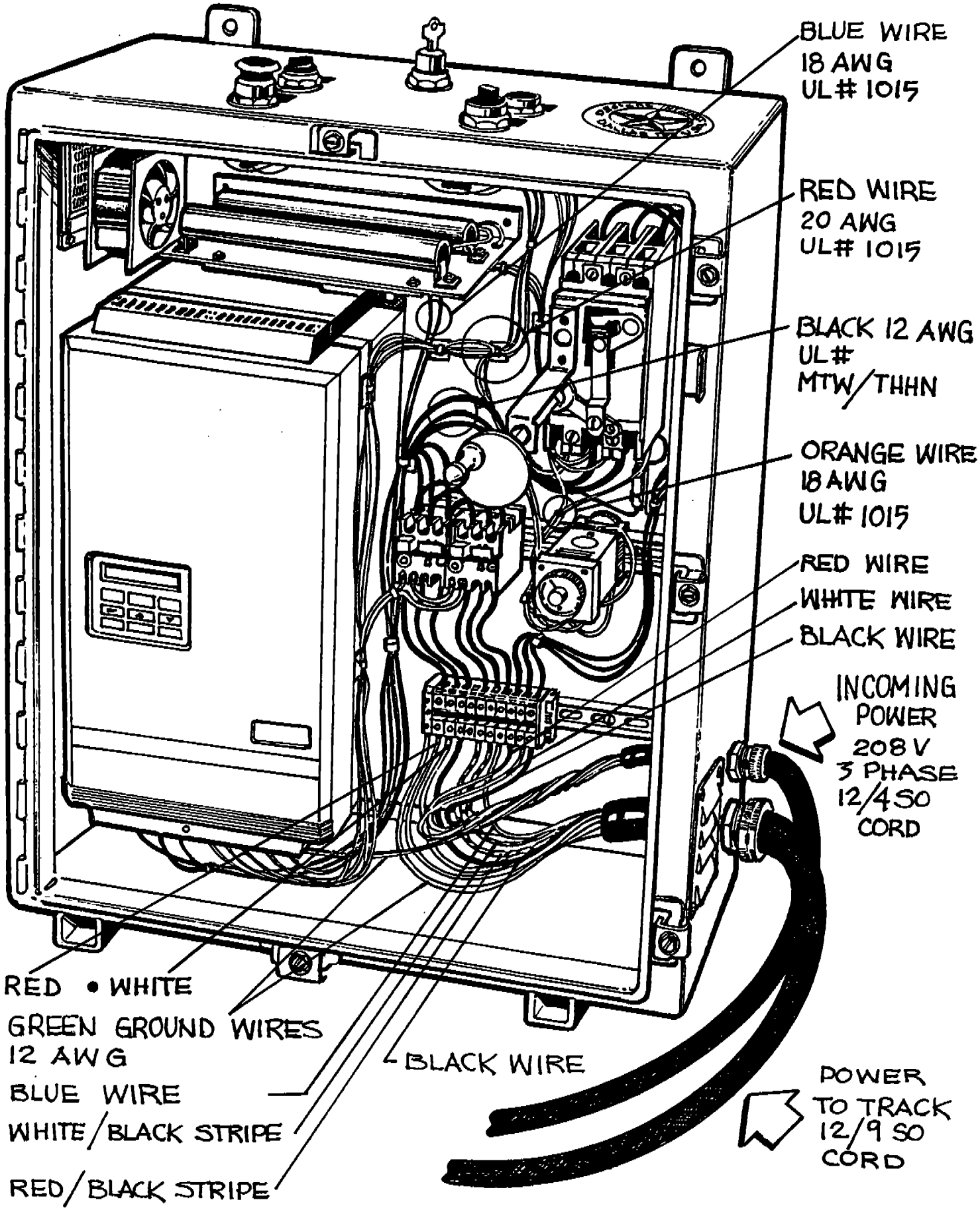
UL RATED DRIVE CABINET



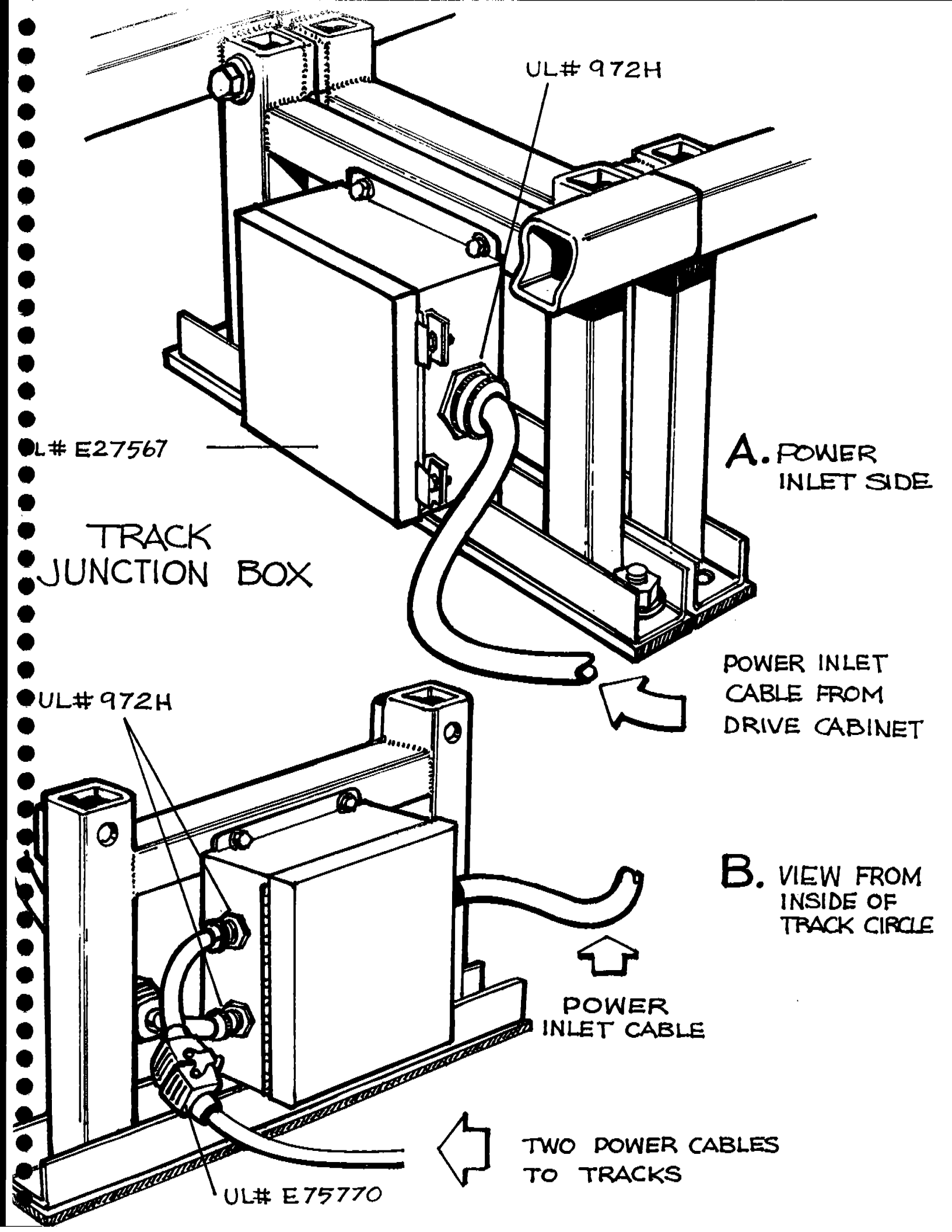
ROTARY HANDLE
SERVICE DISCONNECT

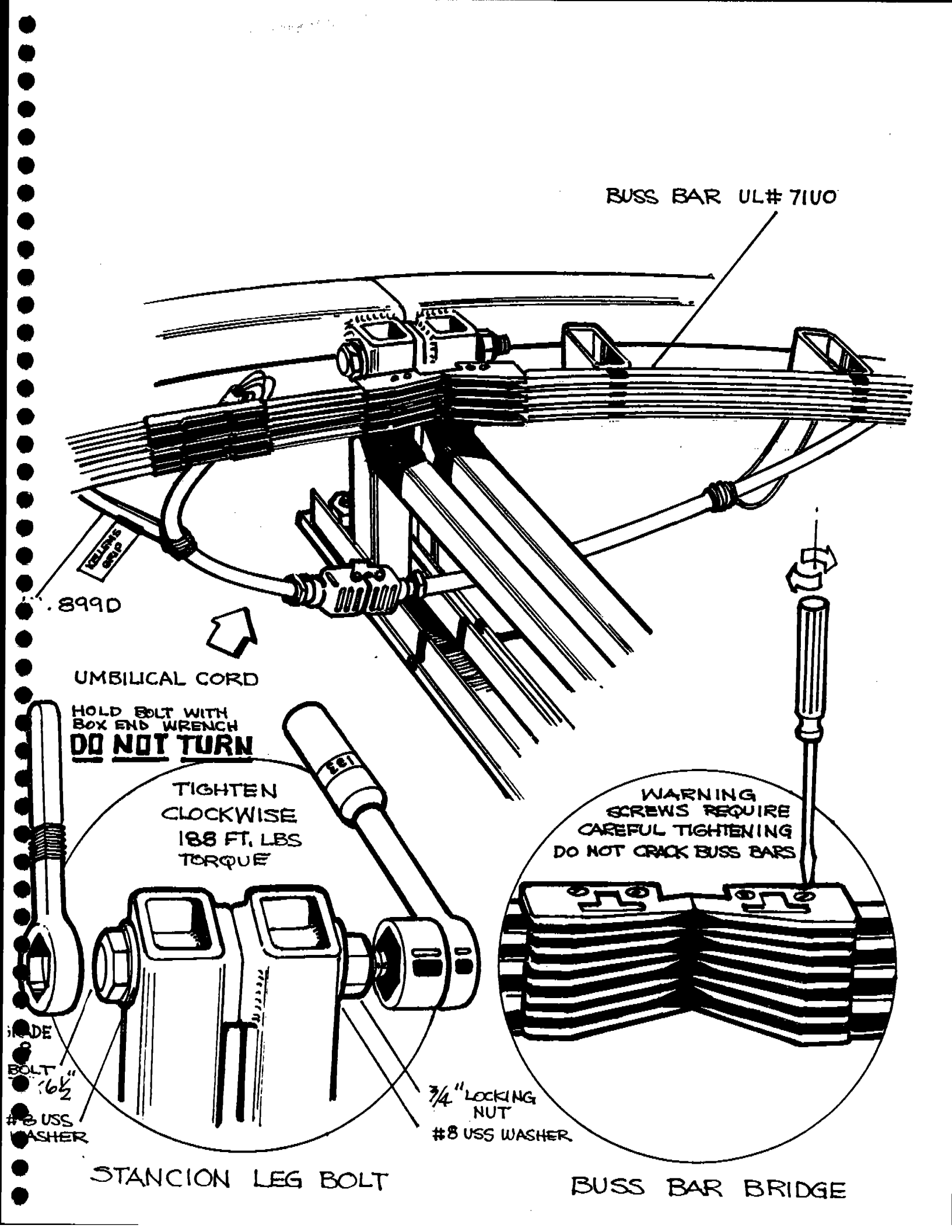


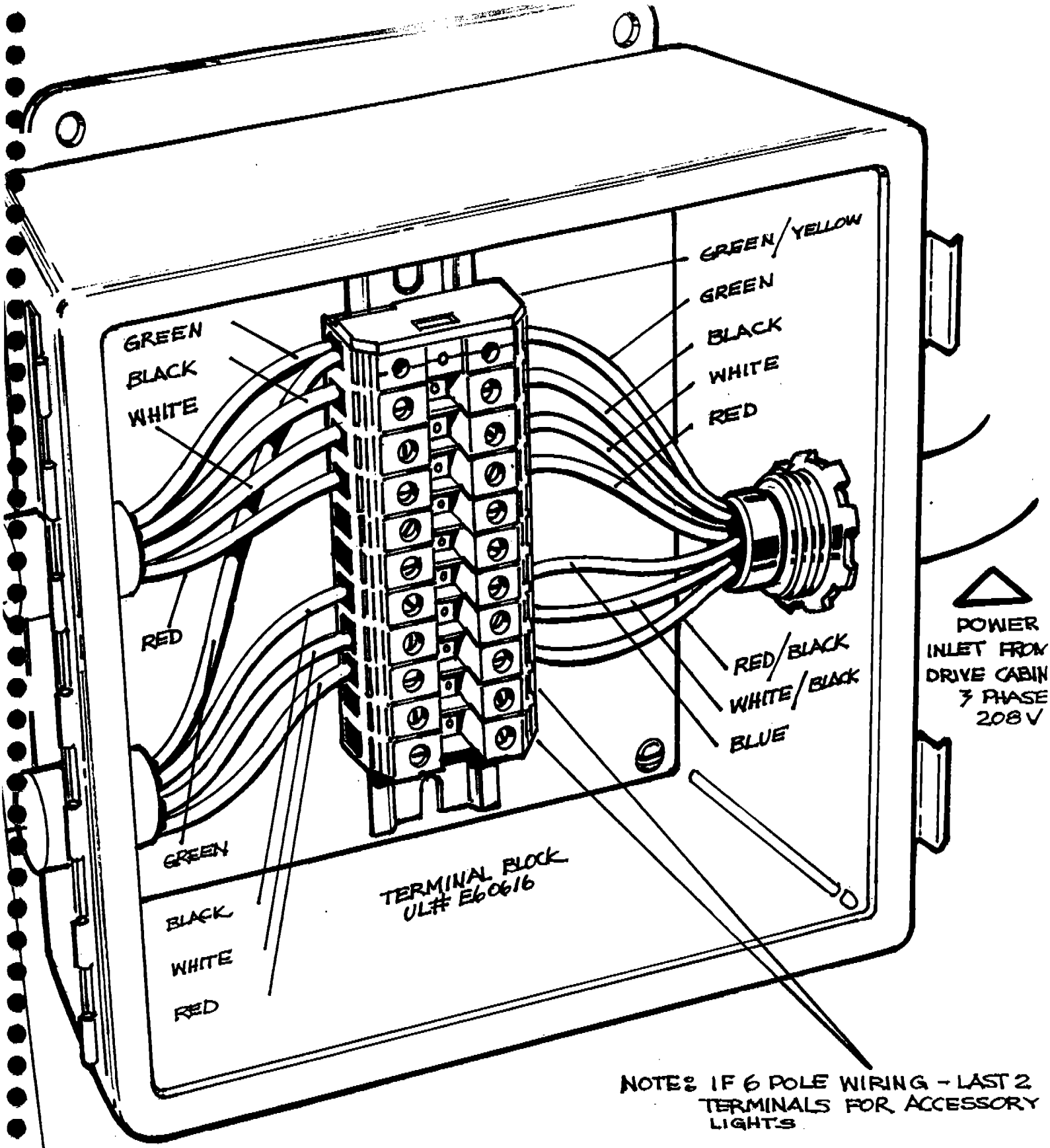
DRIVE CABINET COMPONENT LAYOUT



DRIVE CABINET ELECTRICAL WIRING CALL-OUT


UL# 972H
L# E27567
A. POWER INLET SIDE
TRACK JUNCTION BOX
POWER INLET CABLE FROM DRIVE CABINET
UL# 972H
B. VIEW FROM INSIDE OF TRACK CIRCLE
POWER INLET CABLE
TWO POWER CABLES TO TRACKS
UL# E75770


BUSS BAR UL# 7110
KELLEMS GRIP
.899D
UMBILICAL CORD
HOLD BOLT WITH BOX END WRENCH
DO NOT TURN
TIGHTEN CLOCKWISE 188 FT. LBS TORQUE
WARNING SCREWS REQUIRE CAREFUL TIGHTENING DO NOT CRACK BUSS BARS
BOLT
#8 USS WASHER
3/4" LOCKING NUT
#8 USS WASHER
STANCION LEG BOLT
BUSS BAR BRIDGE

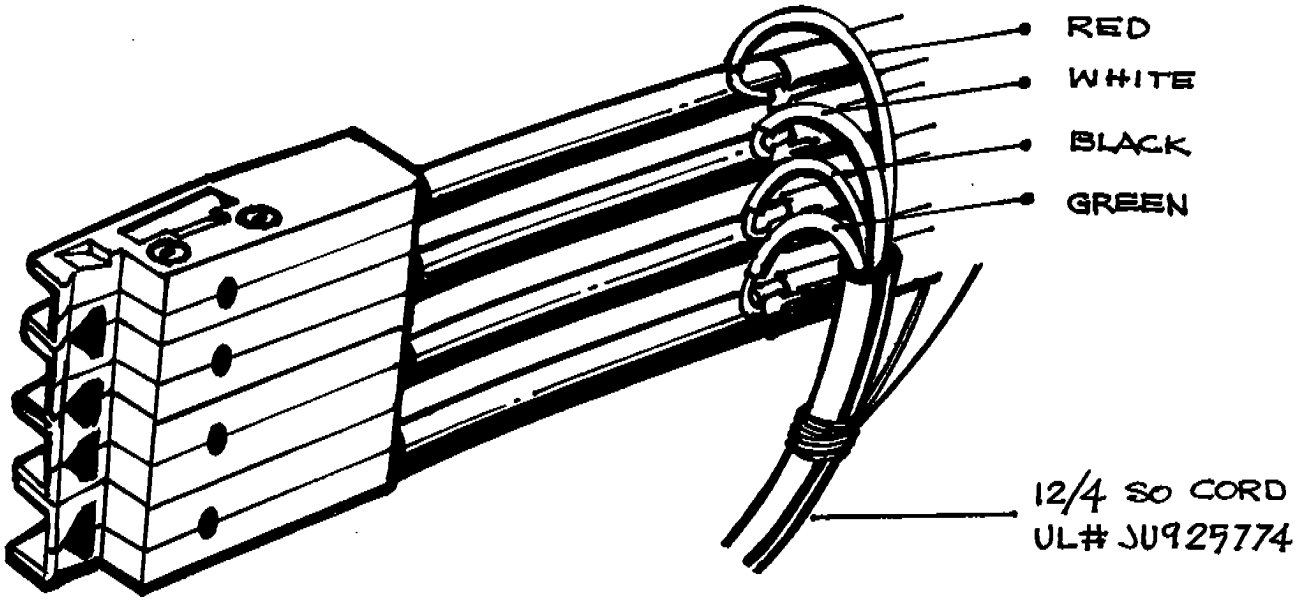


TRACK JUNCTION BOX

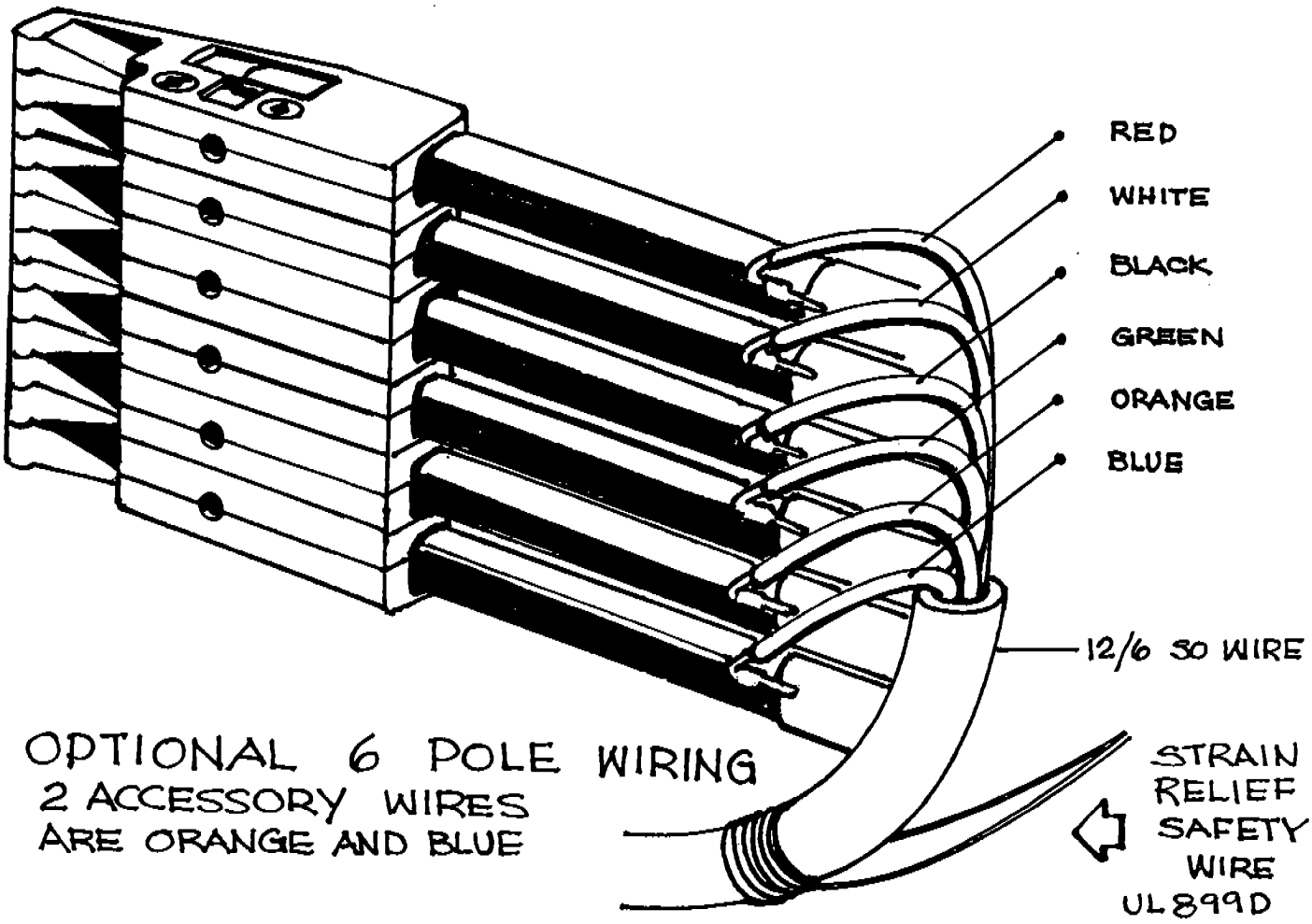
4 POLE WIRING LAYOUT

DOOR IS REMOVED FOR CLARITY OF THE WIRING DIAGRAHAM

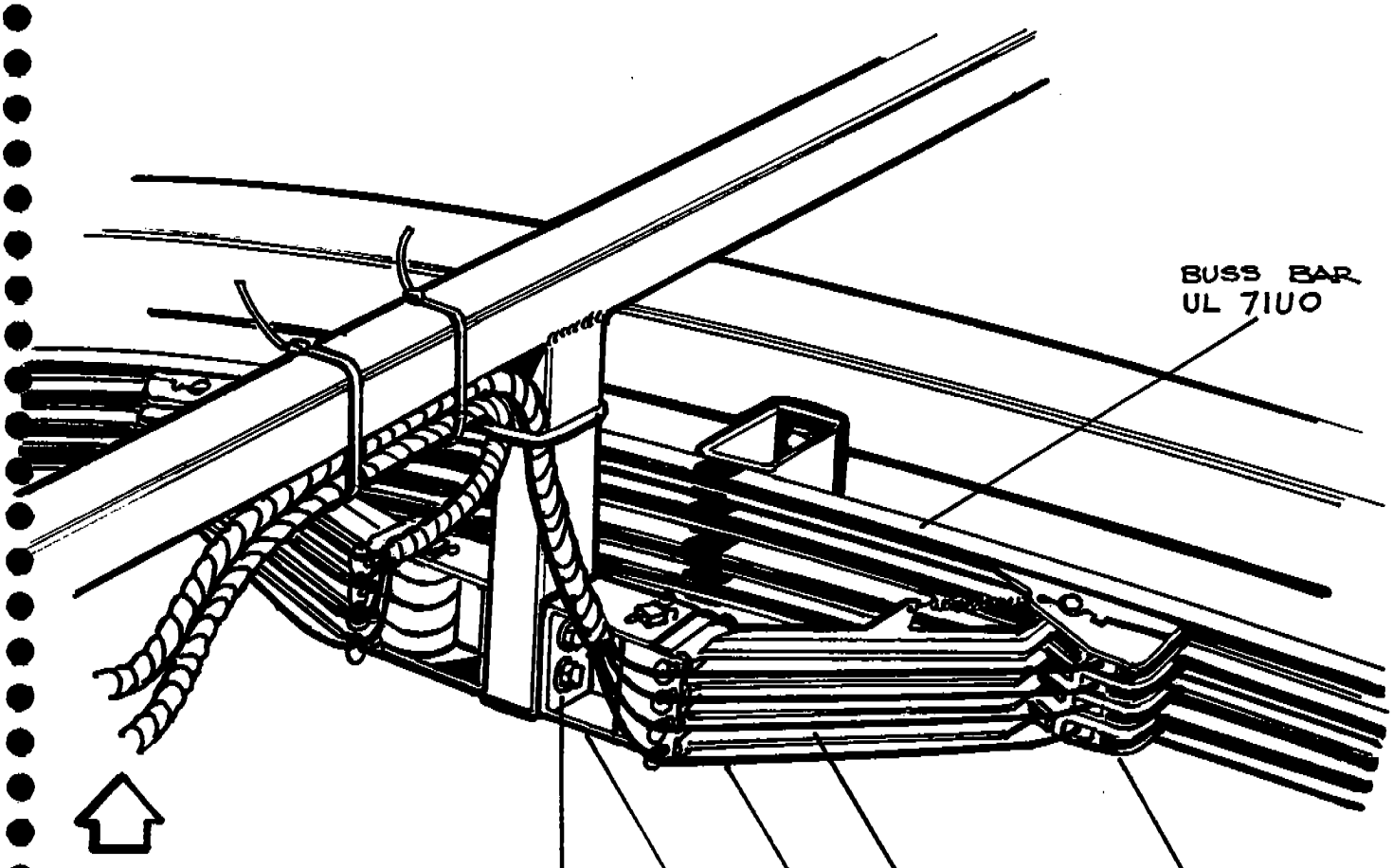
COLOR CODED WIRING



A. STANDARD 4 POLE WIRING



B. OPTIONAL 6 POLE WIRING
2 ACCESSORY WIRES ARE ORANGE AND BLUE

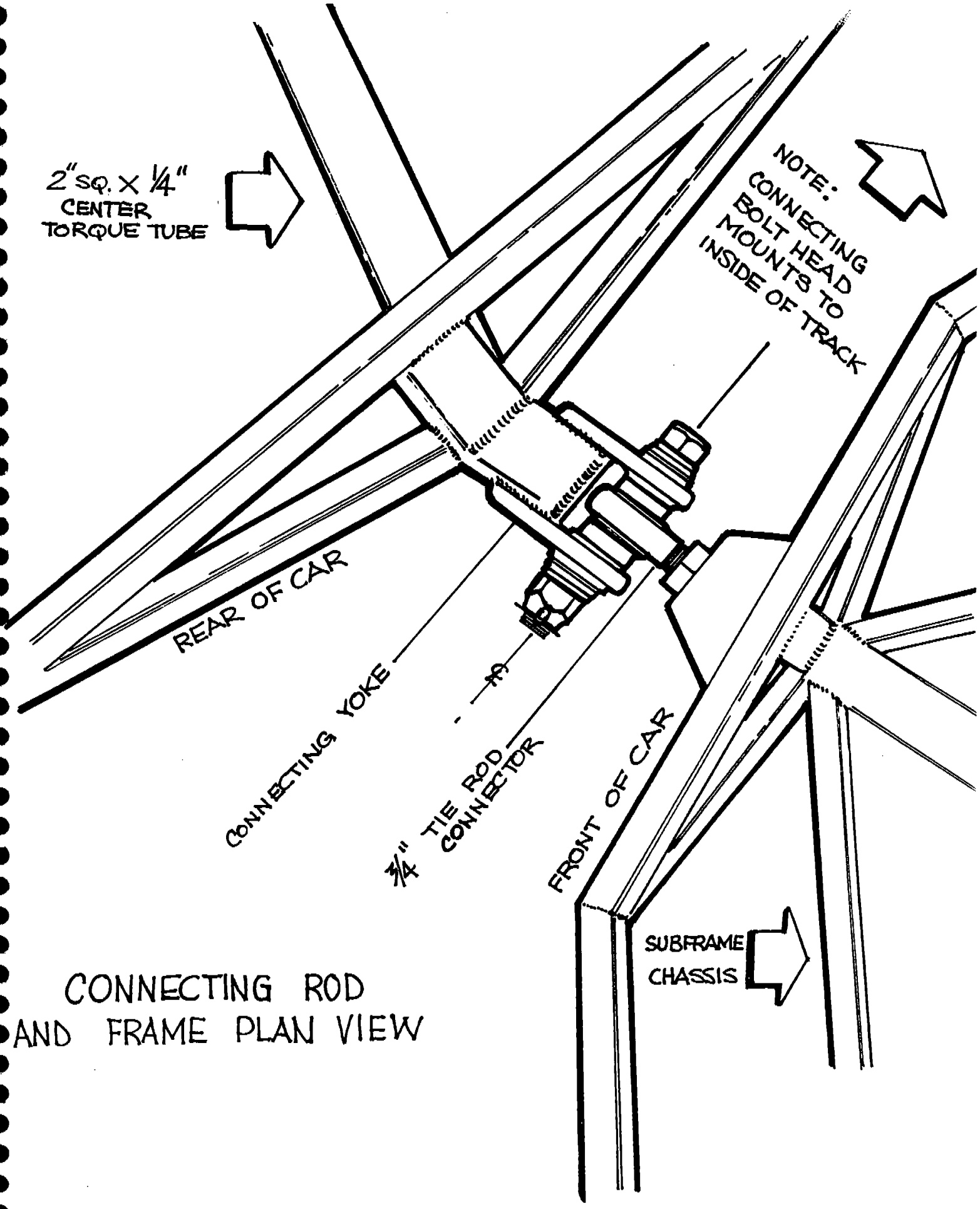


4 POLE COLLECTOR BRUSH ASSEMBLY

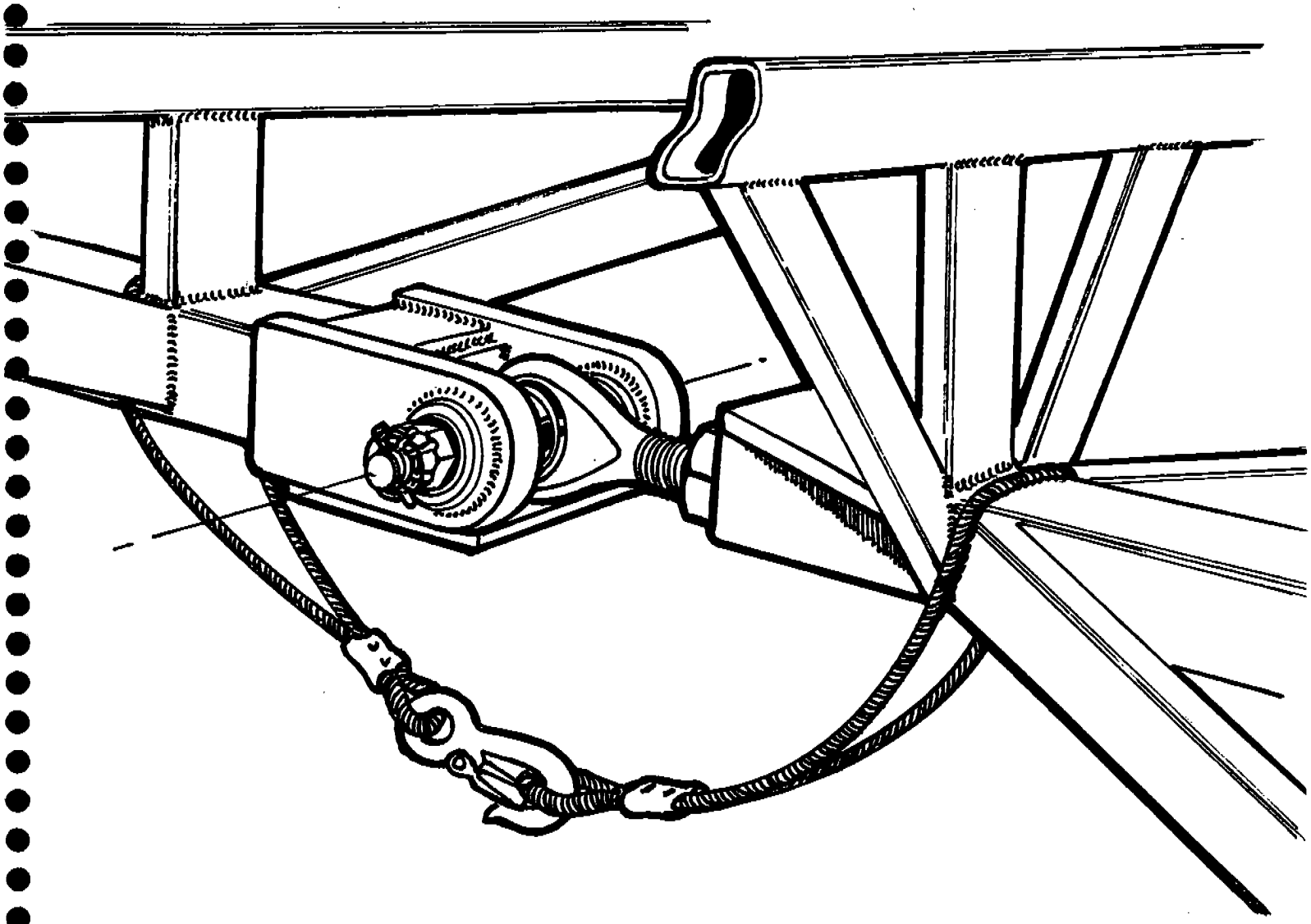
UL # 7100

II. TRACK ASSEMBLY

III. CAR FRAME ASSEMBLY



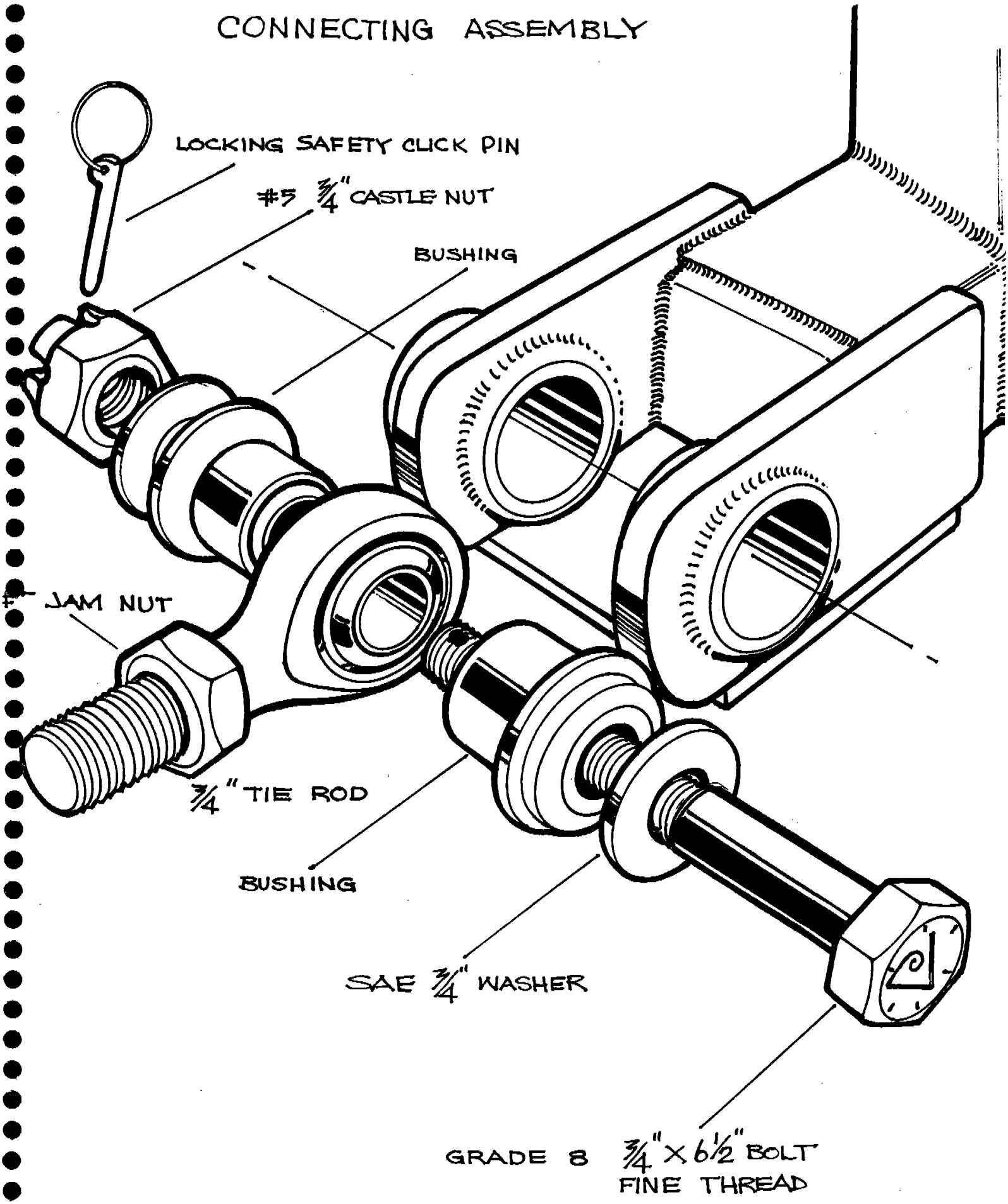
CONNECTING ROD AND FRAME PLAN VIEW

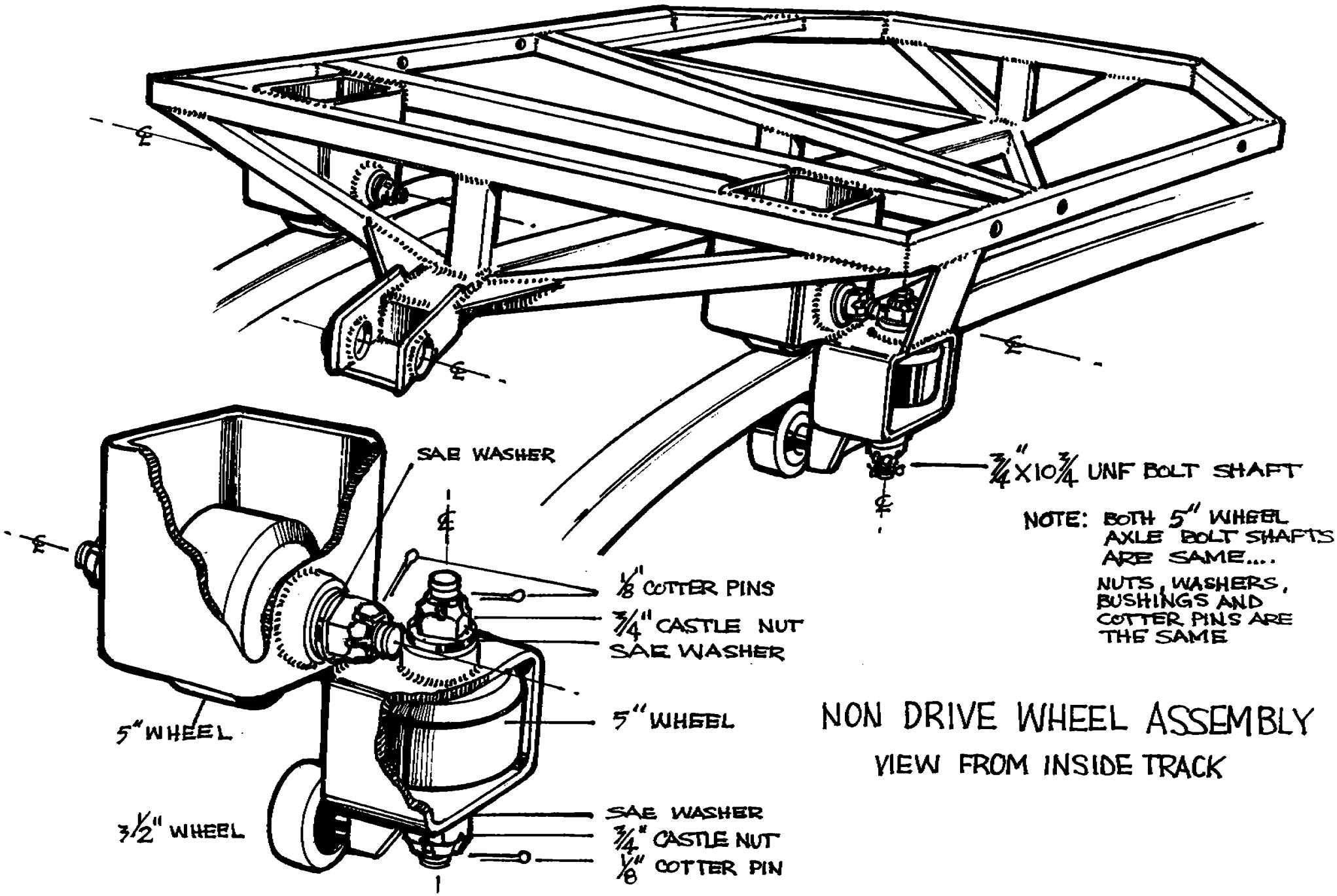


SAFETY CABLE INSTALLATION

- CLASP MOUNTED ON YOKE SIDE
- STAINLESS CABLE RATED — 6400 LBS.
- HOOK & CLASP RATED — 3750 LBS.
- STAINLESS LOOP SLEVE — 5440 LBS.

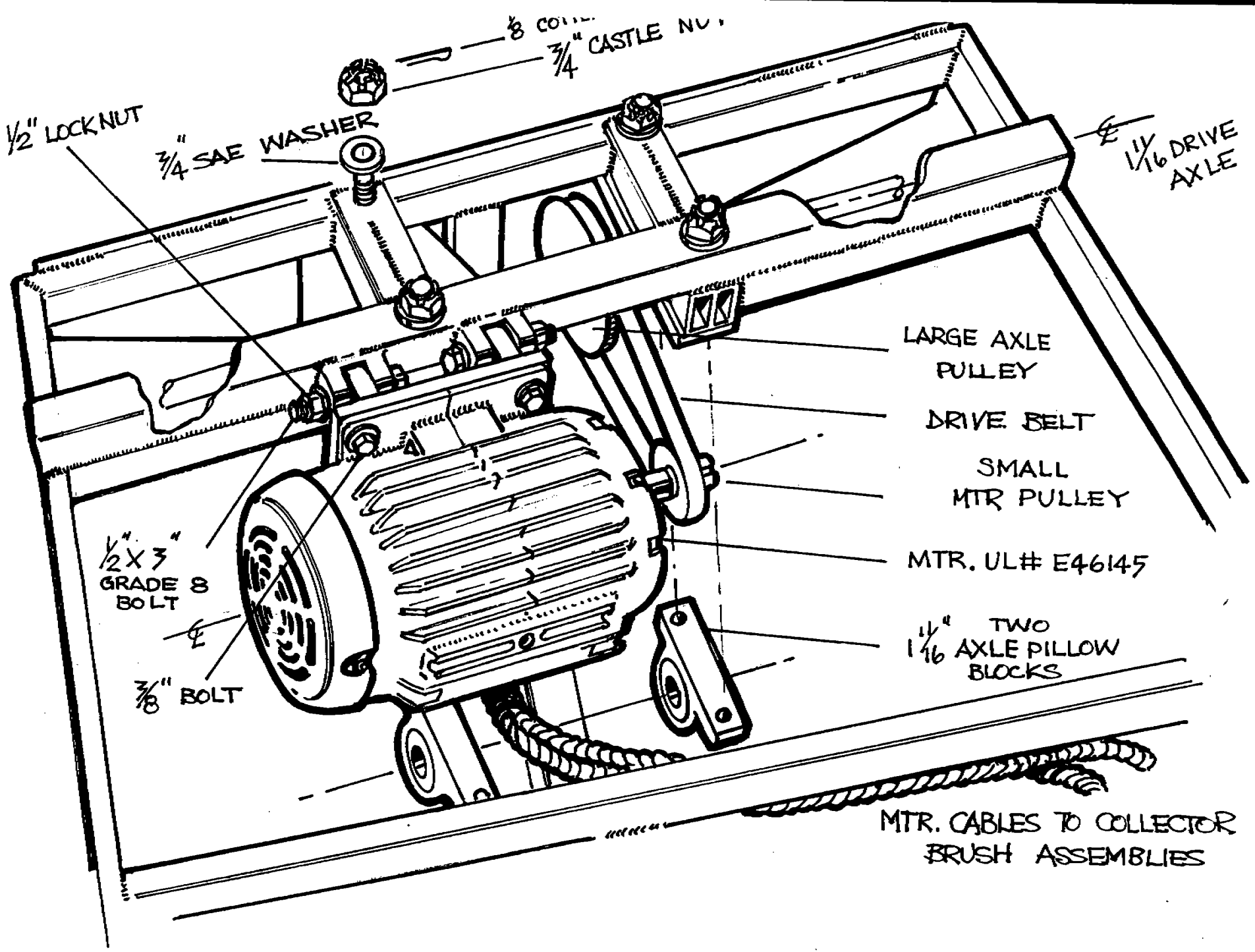
CONNECTING ASSEMBLY





NON DRIVE WHEEL ASSEMBLY

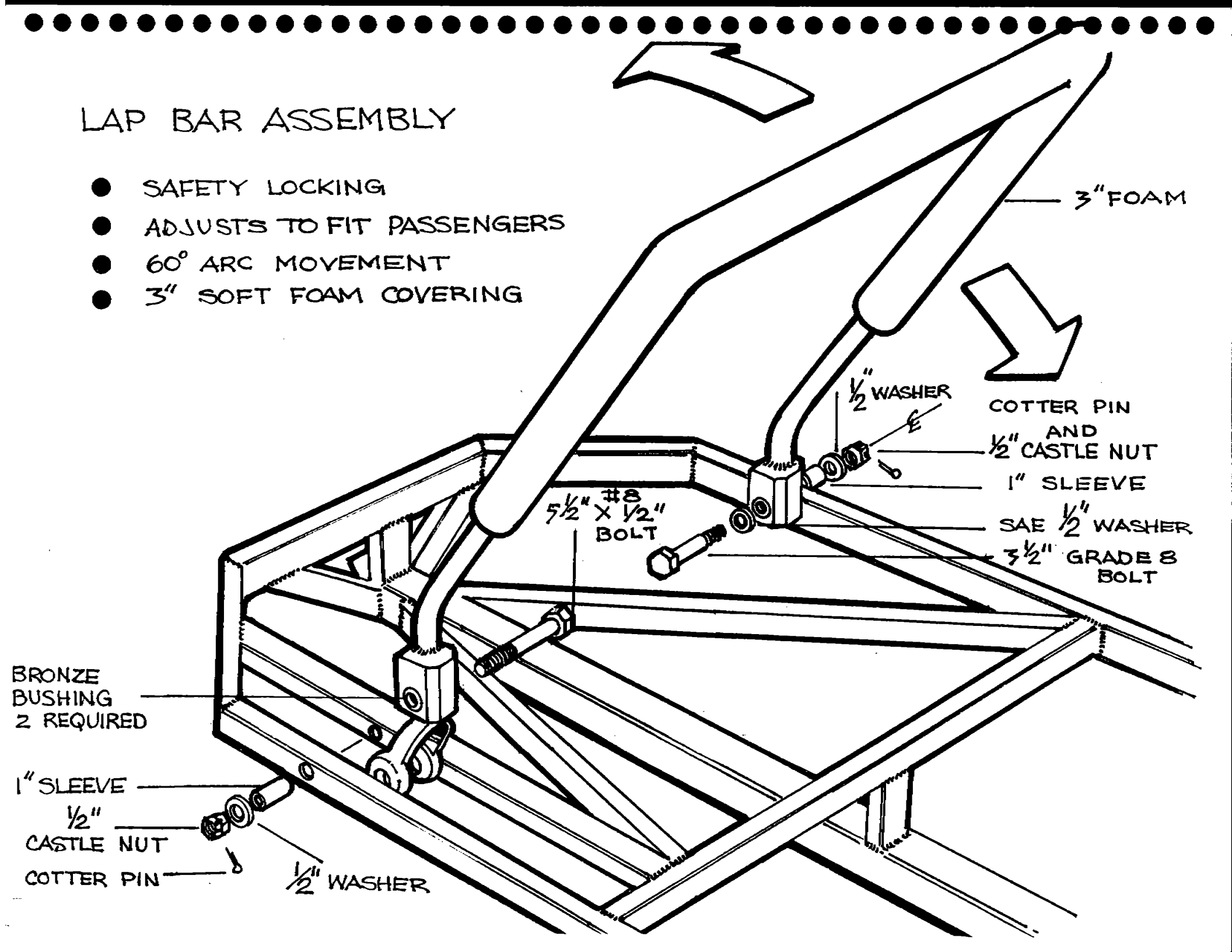
VIEW FROM INSIDE TRACK

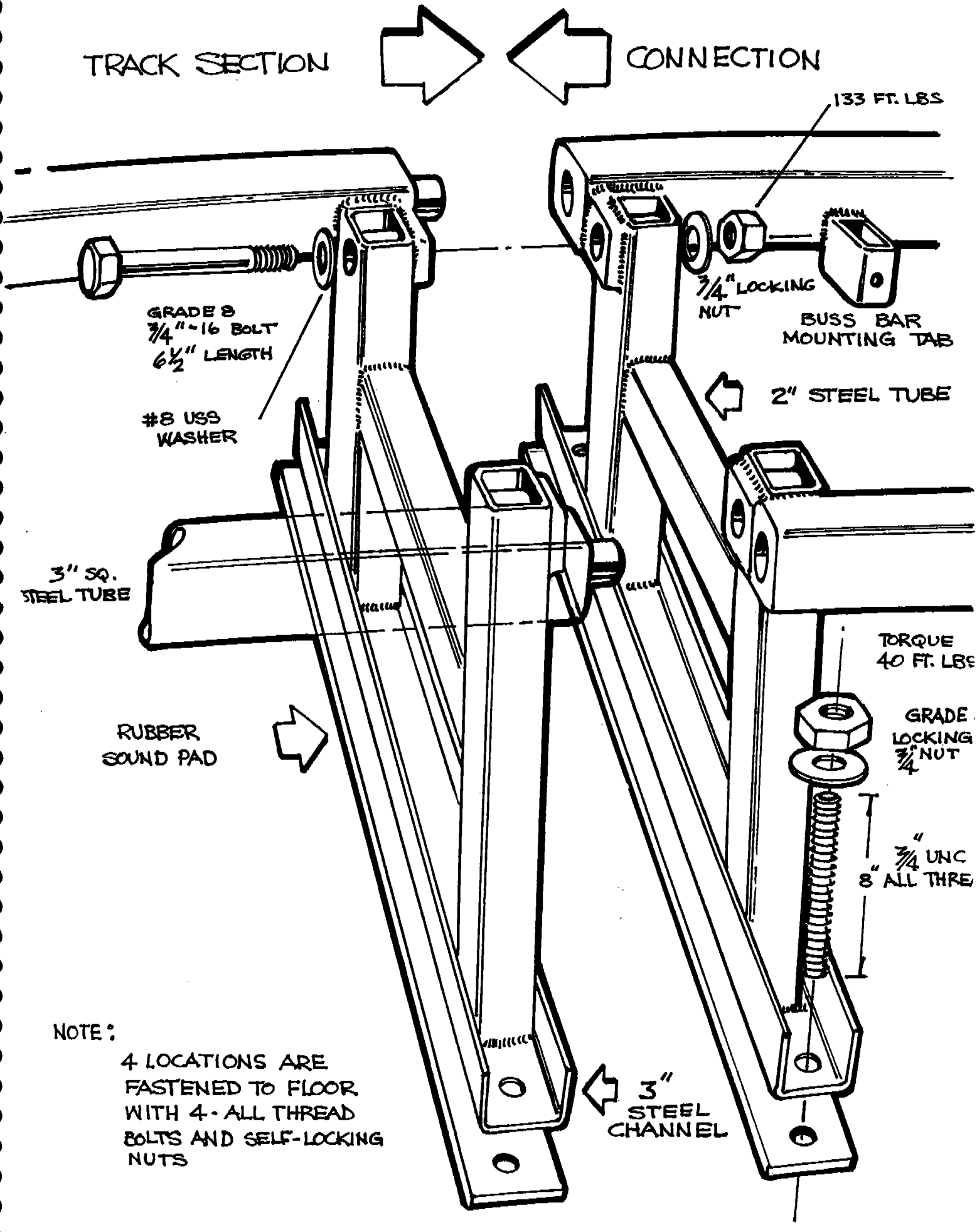


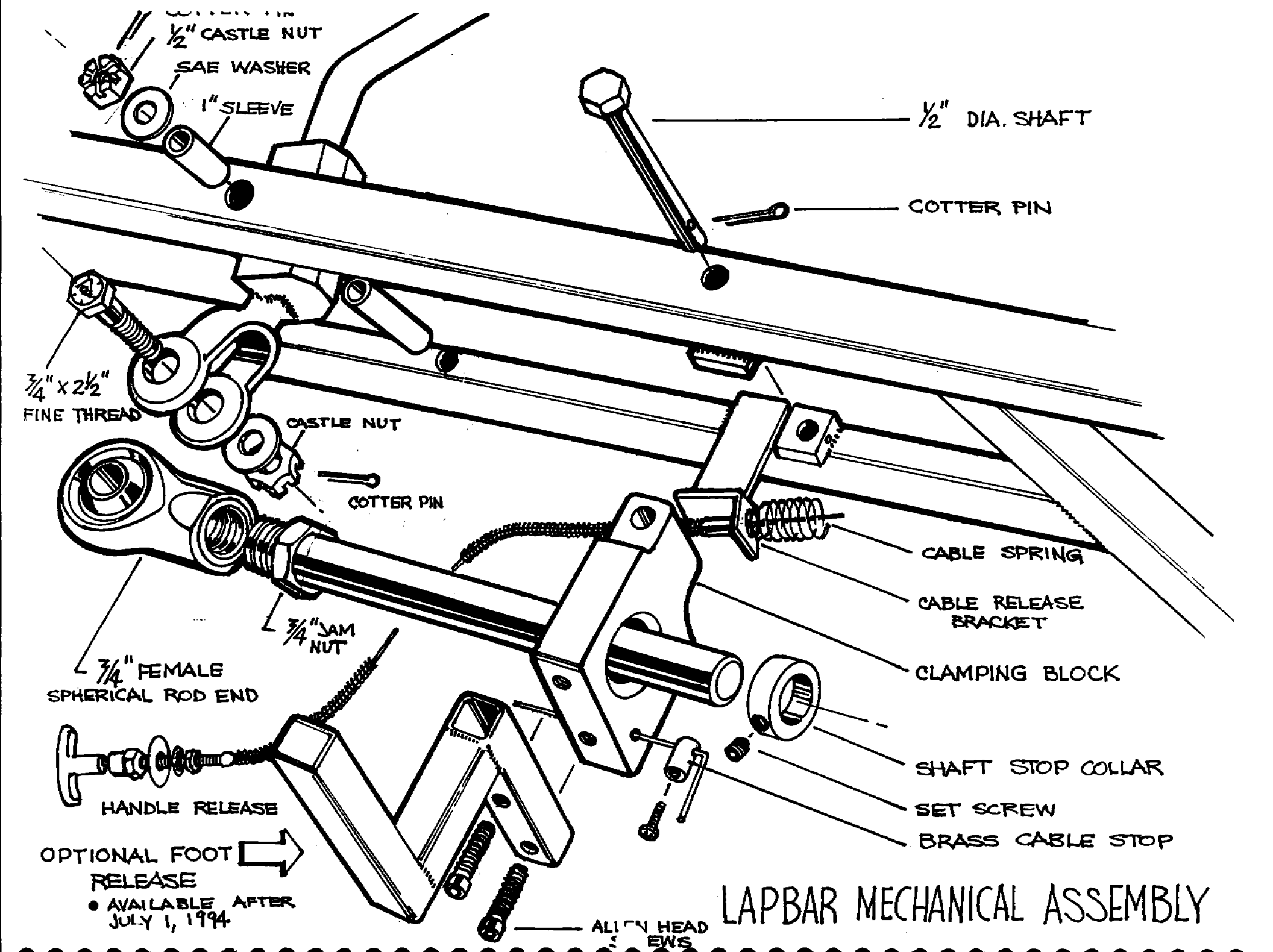
5 H.P. DRIVE MOTOR ASSEMBLY

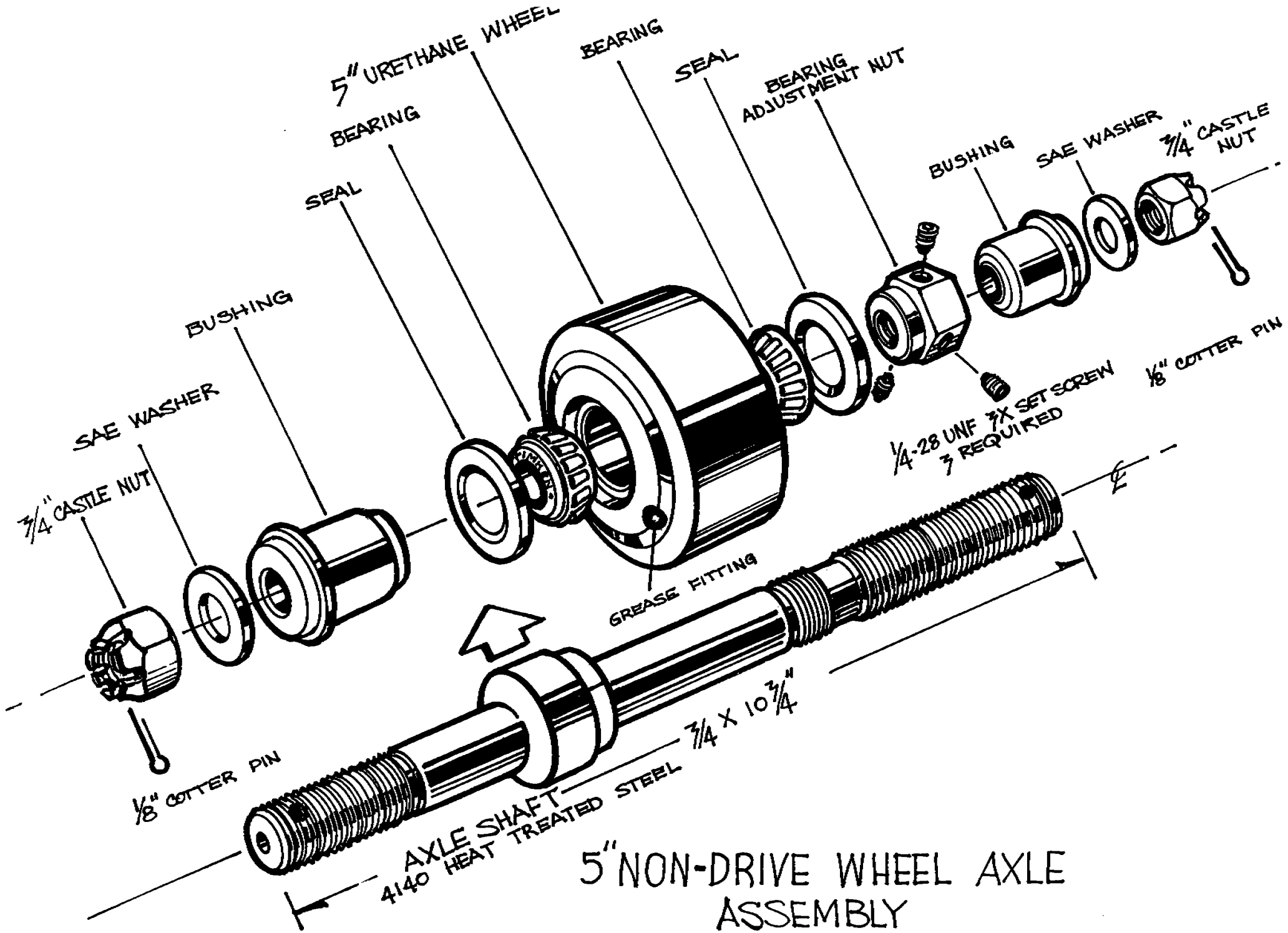
LAP BAR ASSEMBLY

- SAFETY LOCKING
- ADJUSTS TO FIT PASSENGERS
- 60° ARC MOVEMENT
- 3" SOFT FOAM COVERING




TRACK SECTION
CONNECTION
133 FT. LBS
3/4" LOCKING NUT
BUSS BAR MOUNTING TAB
GRADE 8 3/4"-16 BOLT 6 1/2" LENGTH
#8 USS WASHER
2" STEEL TUBE
3" SQ. STEEL TUBE
TORQUE 40 FT. LBS
RUBBER SOUND PAD
GRADE LOCKING 3/4" NUT
3/4" UNC 8" ALL THRE
3" STEEL CHANNEL
NOTE:
4 LOCATIONS ARE FASTENED TO FLOOR WITH 4 - ALL THREAD BOLTS AND SELF-LOCKING NUTS


½" CASTLE NUT
SAE WASHER
1" SLEEVE
½" DIA. SHAFT
COTTER PIN
¾" x 2½" FINE THREAD
CASTLE NUT
COTTER PIN
CABLE SPRING
CABLE RELEASE BRACKET
¾" JAM NUT
¾" FEMALE SPHERICAL ROD END
CLAMPING BLOCK
SHAFT STOP COLLAR
SET SCREW
BRASS CABLE STOP
HANDLE RELEASE
OPTIONAL FOOT RELEASE
• AVAILABLE AFTER JULY 1, 1994
ALLEN HEAD SCREWS
LAPBAR MECHANICAL ASSEMBLY



5" NON-DRIVE WHEEL AXLE ASSEMBLY

MINIMUM TOOL LIST REQUIREMENT

Rotary Hammer Drill

7/8" Masonry Bit

3 Tubes of Hit-C 100 Chemical Treatment & Gun

1 1/8" Socket & Torque Wrench

3/8" Wrench - 2

5/16" Wrench - 2

3/4" Wrench - 2

1/2" Wrench - 2

9/16" Wrench - 2+

Pry bar with a hill pad

Hydraulic Jack 1-1/2 Ton

Slotted Screw Drive & Phillips Screw Driver

Crimping Tool for Safety Cable

Cleaning Supplies

Rubber Glue

Rubbing Compound

Volt Ohm Meter

Tie Wraps

6 Wampfler Brushes

3 Bass Bar Connectors

Grease Gun

Grinder & Goggles

Paint & Primer Black

SPARE PARTS LIST

DII #	UL #	CSA #	DII DESCRIPTION
			Drive Cabinet
EDL 1	489	C22.2 No. 5+14	Circuit Breaker
EDL 1A			Rotary Door Mount Handle
EDL 2	E19180	47233	Fan Fuse
EDL 2A	Note 3		Fan Fuse Block
EDL 3	E82039	LR69239	Drive Cabinet Fan
EDL 3A	Note 4		Drive Cabinet Louvers
EDL 3B	Note 4		Drive Cabinet Filters
EDL 4	Note 1	091131 X0007	Variable Frequency Drive
EDL 5	Note 1	Note 2	Dynamic Braking Unit
EDL 6	340B	45958	Motor Thermal Overload
EDL 6	340B	45958	Motor Thermal Overload Mount
EDL 7	E60616		Din Rail Mounted Wire Terminal Connectors
EDL 7A	E60616		Din Rail Mounted Ground Wire Connectors
EDL 7B	E60616		Din Rail Mounted End Clamp
EDL 7C	E60616		Din Rail Mounted End Barrier
EDL 7D	E60616		Din Rail
EDL 8	E14840		Start Push Button Illuminated
EDL 9	E14840		Jog Pushbutton
EDL 10	E14840		For-Rev Selector Switch
EDL 11	E14840		Lo-Med-Hi Selector Switch
EDL 12	E14840		Off-On Key Switch
EDL 13	A191		Normally Open Contacts For Switches and Buttons
EDL 13A	A191		Normally Closed Contacts For Switches and Buttons
EDL 14	E3125	90107	Timer
EDL 14A	E96409	29513	Din Rail Mounting Base for Timer
EDL 15	E61997	LR42186	Drive Cabinet + Panel
EDL 16	JU925774	AN355829	Power Cord to Drive Cabinet
EDL 16A	514B		Power Cord # 16 Cord Grip into Drive Cabinet
			Track Cable and Buss Bar
FBS 20B	E75770	LR53004-1	Umbilical Cord Top Entry Hood
FBS 20C	E75770	LR53004-1	Umbilical Cord Male Plug
FBS 20	E75770	LR53004-1	Umbilical Cord Cable Coupler Hood
FBS 20A	E75770	LR53004-1	Umbilical Cord Femal Receptacle
FBS 21	JU925774	AN355829	Umbilical Cord
FBS 21A	899D		Umbilical Cord Strain Reliefs
FBS 22	71UO		4-Pole Rail Assembly First Sections from Junction Box

FBS 22A	71UO		4-Pole Rail Assembly second Section to Right
FBS 22B	71UO		4-Pole Rail Assembly Second Section to Left
FBS 22C	71UO		4-Pole End Cap (not needed if ordering complete rail assy.)
FBS 23	71UO		Black Phase Collector Brush
FBS 24	71UO		Green Ground Collector Brush
FBS 23A	71UO		Black Phase Collector Wire
FBS 24A	71UO		Green Ground Collector Wire
FBS 25	71UO		4-Pole Collector Brush Bracket
FBS 26	71UO		4-Pole Conductor Rail Assembly Bracket
FBS 27	E46145	LR6841-7	Motor
FR 16B	231A		Power Cord #18 Plug
FR 17	HY91518	S959129	Power Cord From Drive Cabinet to Junction Box
FR 17A	972H	X	Power Cord #17 Cord Grip into Drive Cabinet
	MTW/THHN		12 AWG Black Wire Inside Cabinet
	1015		18 AWG Orange Wire Inside Cabinet
	1015		20 AWG Red Wire Inside Cabinet

NOTE 5: NOT RECOGNIZED BECAUSE IT IS CONSIDERED AN ACCESSORY.

NOTE 4: THE LOUVERS AND FILTERS ARE NOT RECOGNIZED BECAUSE THEY ARE ACCESSORIES

NOTE 3: BUSS 4000 SERIES IS NOT U.L. RECOGNIZED BUT 8000 SERIES IS (U.L. #314853A)

NOTE 2: POLYSPEDE HAS NOT SUBMITTED THE BRKL-2 TO C.S.A.

NOTE 1: POLYSPEDE HAS NOT SUBMITTED EITHER THE XLT3-150FG OR THE BRKL-2 TO U.L.

DESIGNS INTERNATIONAL, INC.

SERVICE BULLETIN POLICY

It is the policy of Designs International, Inc. to issue service bulletins regarding the Mini-Himalaya when necessary.

As of the date of this manual no services bulletins have been issued. It is the policy of Designs International to issue bulletins to the last known owner of the ride.

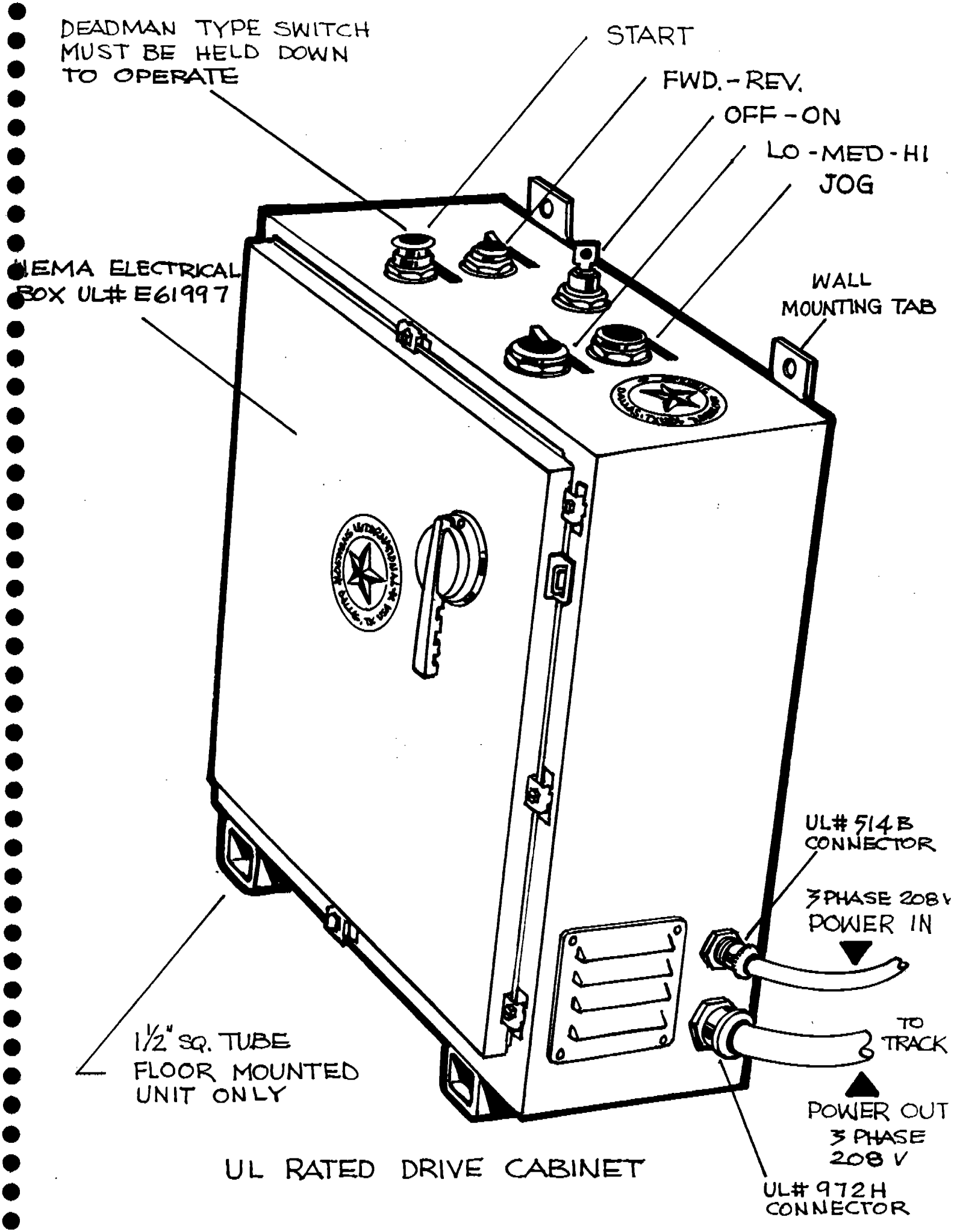
FASTENER SCHEDULE

FASTENERS: Nuts (NOT CAPSCREWS) must be tightened in accordance with the torque values listed in the following chart. Only grade 8 or better capscrews and grade 8 locknuts, with A325 ardened washers are used for functional loads. The manufacturer's identification symbols must be present on all functional load carrying capscrews. All replacement or spare parts should be ordered through the manufacturer. Replacement with an inferior grade product could present a potential safety problem in future operation of the ride and will negate all warranties.

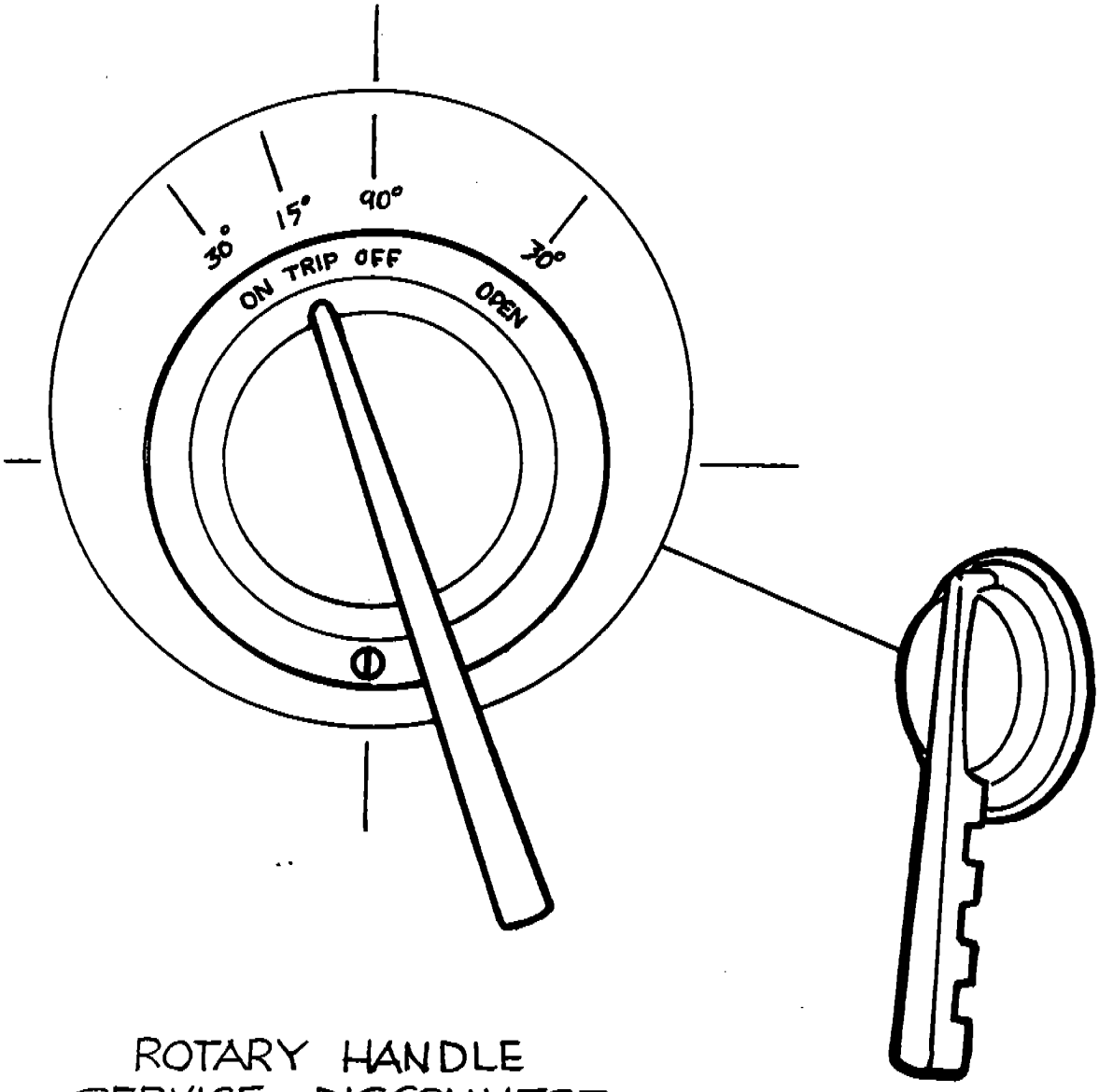
SIZE	LENGTH	THREAD TYPE	LOCATION	(FOOT) (LBS.) TORQUE	QTY	GRDE
3/4" Bolt	6.5"	UNF	Track Section Connection	N/A	8	#8
3/4" Locking Nut	N/A	UNF	Track Section Connection	133	16	#8
3/4" Washer	N/A	SAE	Track Section Connection	N/A	8	#8
3/4" All Thread	8.0"	UNC	Track Section	40	8	
3/4" Bolt	6.5"	Fine Thread	Car Connection Assembly		16	#8
3/4" Tie Rod			Car Connection Assembly		16	
3/4" Jam Nut		Fine Thread	Tie Rod Connector Assembly	133	16	
3/4" Castle Nut		Fine Thread	Car Connection Assembly	Finger Tight	32	#5
3/4" Bushing			Car Connection Assembly		32	
3/16" Locking Safety Pin			Car Connection Assembly		16	
3/4" Bolt	10.75"	UNF Shaft	Wheel Assembly		48	#
1/8" Cotter Pin			Wheel Assembly		122	
3/4" Castle Nut		Fine Thread	Wheel Assembly		122	
5.0" Wheel			Non-Drive Wheel Assembly		96	
3.5" Wheel			Non-Drive Wheel Assembly		96	
3/8" Bolt		USS	Motor Assembly			
1/2" Bolt	3.0"	UNC	Motor Assembly		4	#8
1/2" Lock Nut		UNC	Motor Assembly		4	#8
1/2" SAE Washer		SAE	Motor Assembly		120	

SIZE	LENGTH	THREAD TYPE	LOCATION	(FOOT) (LBS.) TORQUE	QTY	GRDE
1-11/16" Drive \xle			Motor Assembly		2	
1-11/16" Pillow Blks			Motor Assembly		2	
1/2" Bolt	5.5"	UNC 13	Lap Bar Lock Assembly		16	#8
3/4" Female Spherical Rod End			Lap Bar Lock Assembly		16	
1/2" Castle Nut		Fine Thread	Lap Bar Lock Assembly		48	
3/4" Bolt	2.5"	Fine Thread	Lap Bar Lock Assembly		16	
Bronze Bushing			Lap Bar Lock Assembly		64	
1/2" Bolt	3.5"		Lap Bar Lock Assembly		16	#8
1/4" Bolt	2.0"	20	Collector Brush Assembly		4	
1/4" Nut		20	Collector Brush Assembly	4	4	#8
1/4" Washer		SAE	Collector Brush Assembly		4	
3/4" Bearing Adjust Nut		Fine Thread	Wheel Assembly		16	#8

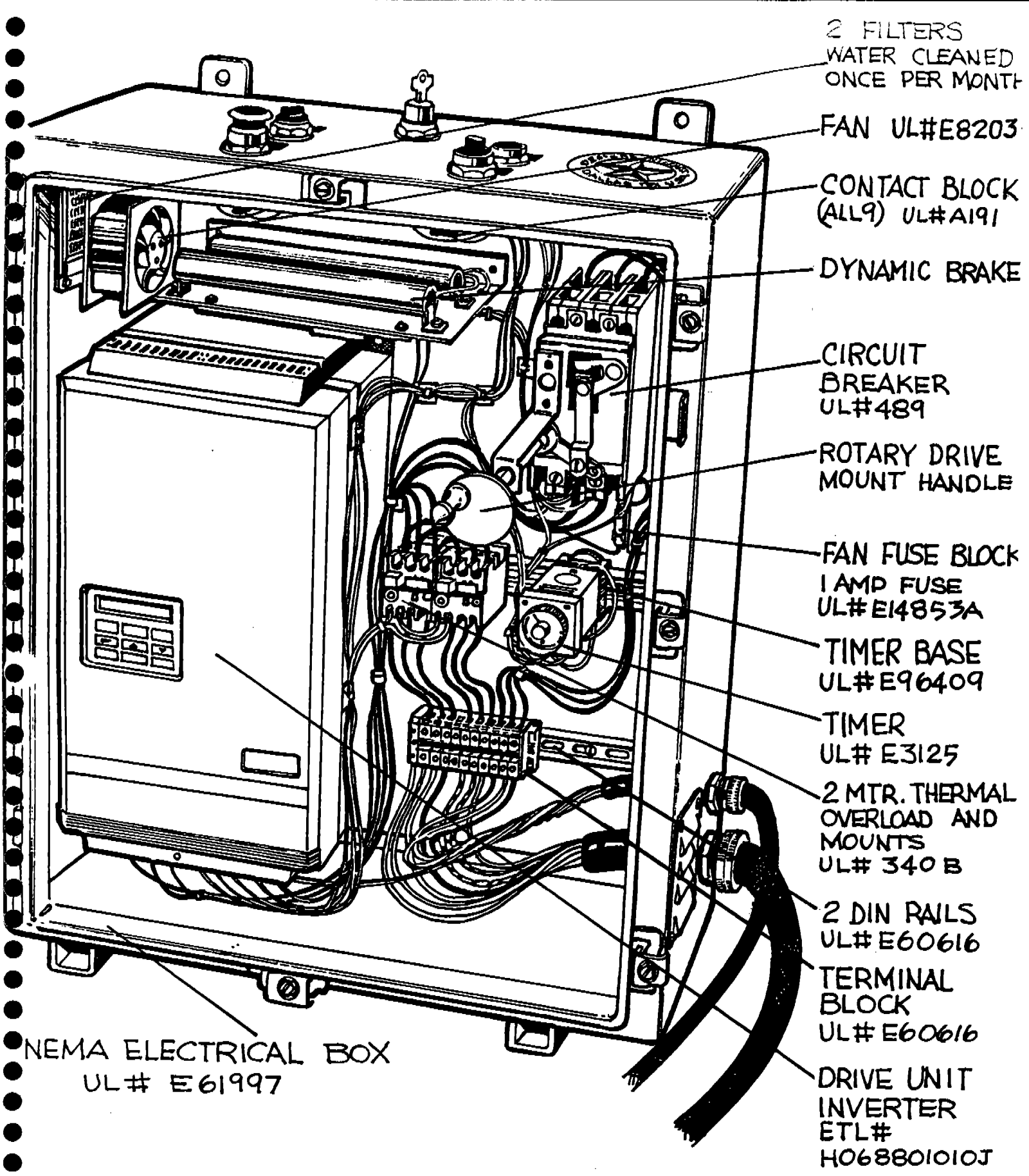
I. ELECTRICAL



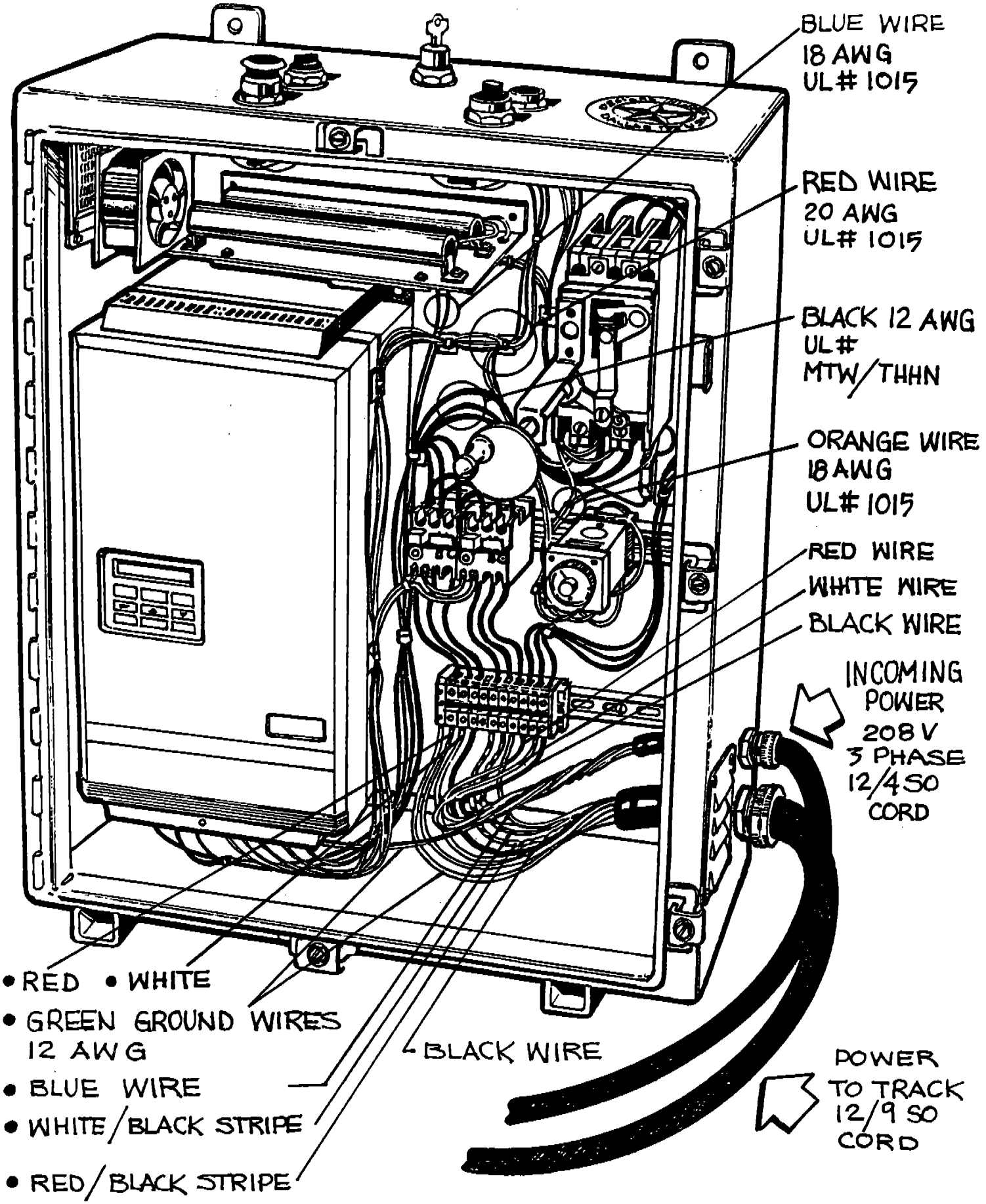
UL RATED DRIVE CABINET



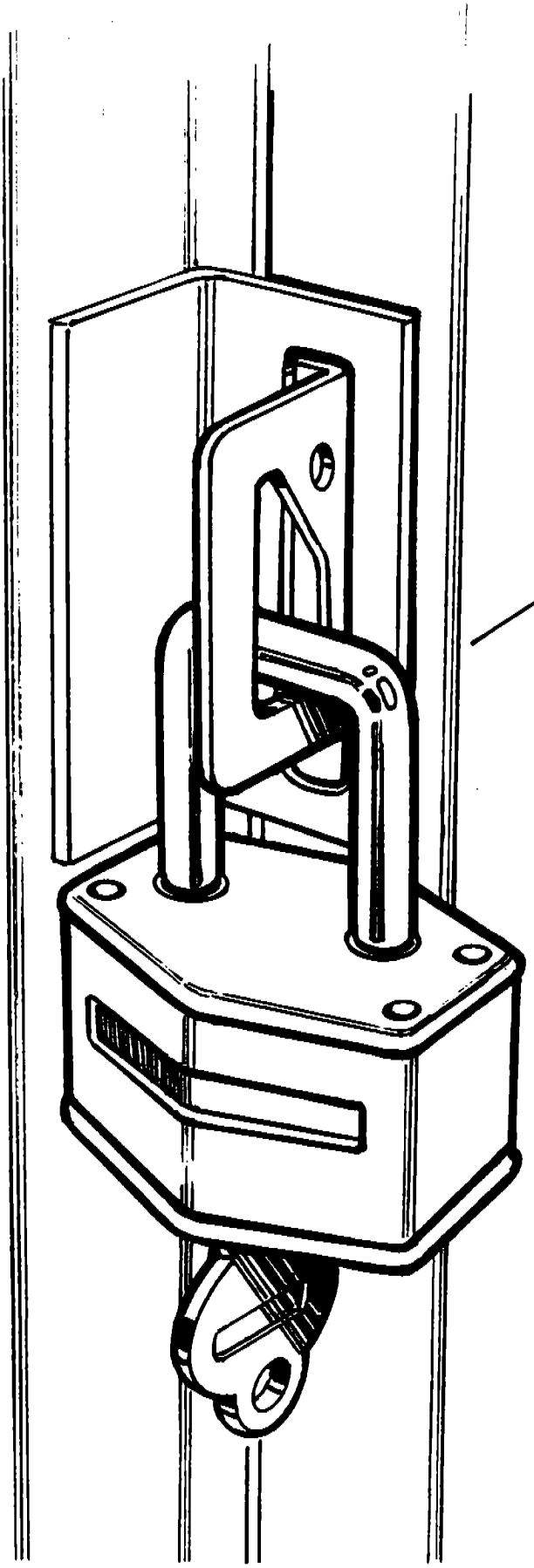
ROTARY HANDLE
SERVICE DISCONNECT

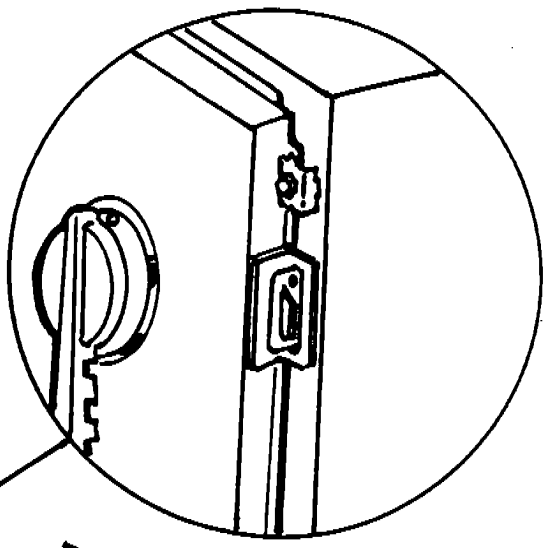


DRIVE CABINET COMPONENT LAYOUT



DRIVE CABINET ELECTRICAL WIRING CALL-OUT

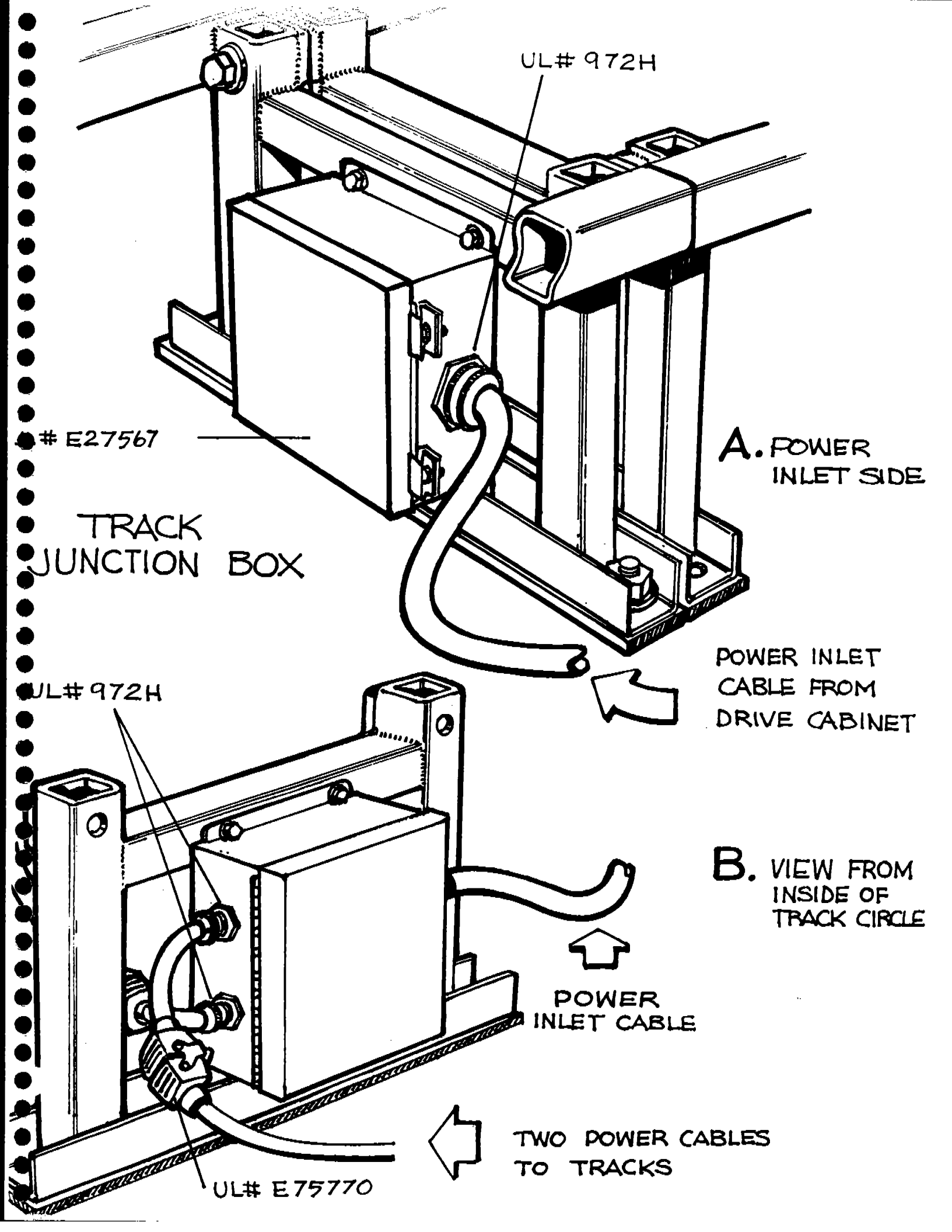


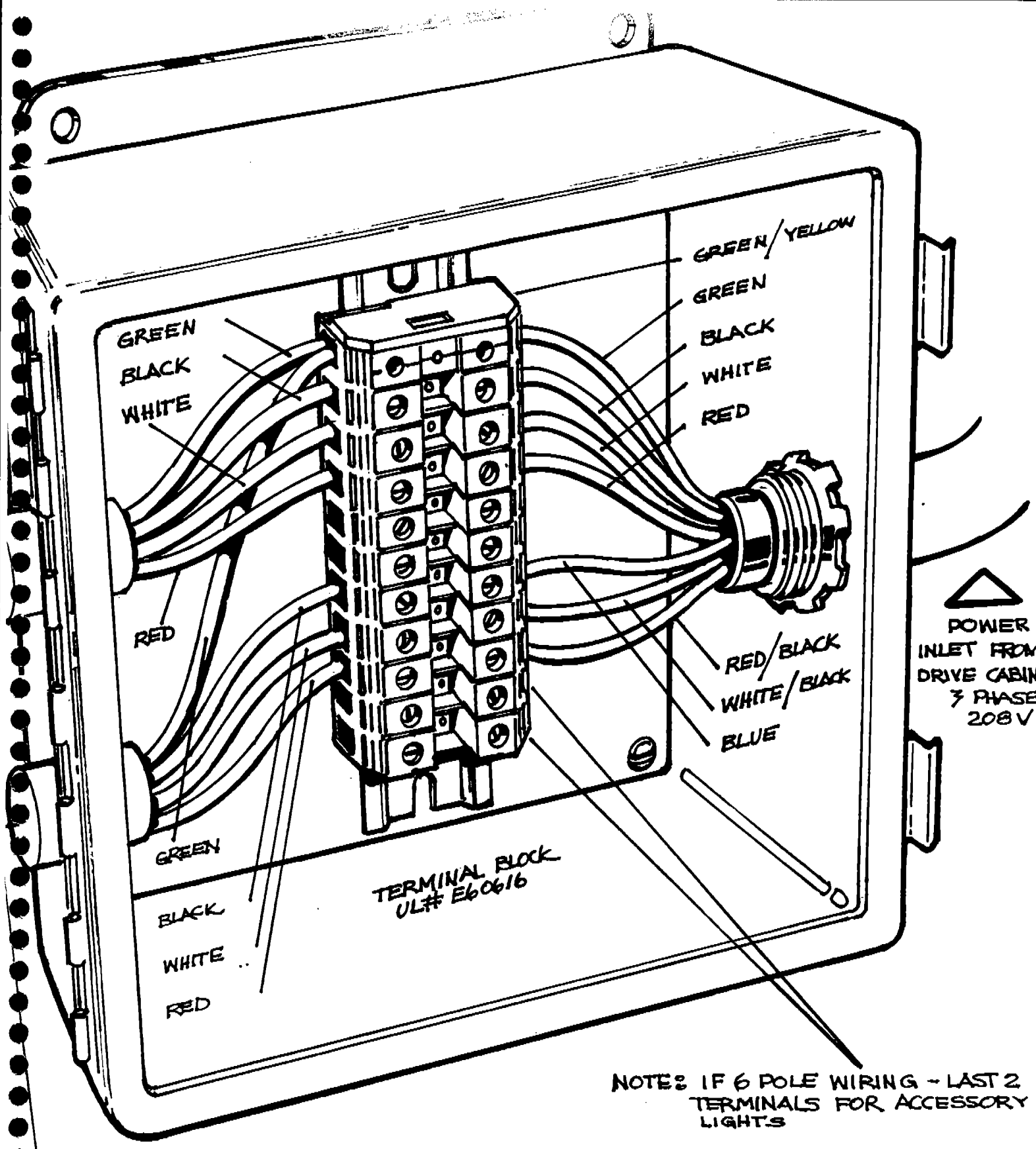


DRIVE CABINET
EXTERIOR LOCK LOCATION

MASTER TYPE
LOCK WITH KEY IS
RECOMMENDED FOR
DRIVE CABINET SAFETY

DRIVE CABINET EXTERIOR SAFETY LOCK


UL# 972H
E27567
A. POWER INLET SIDE
TRACK JUNCTION BOX
POWER INLET CABLE FROM DRIVE CABINET
UL# 972H
B. VIEW FROM INSIDE OF TRACK CIRCLE
POWER INLET CABLE
TWO POWER CABLES TO TRACKS
UL# E75770

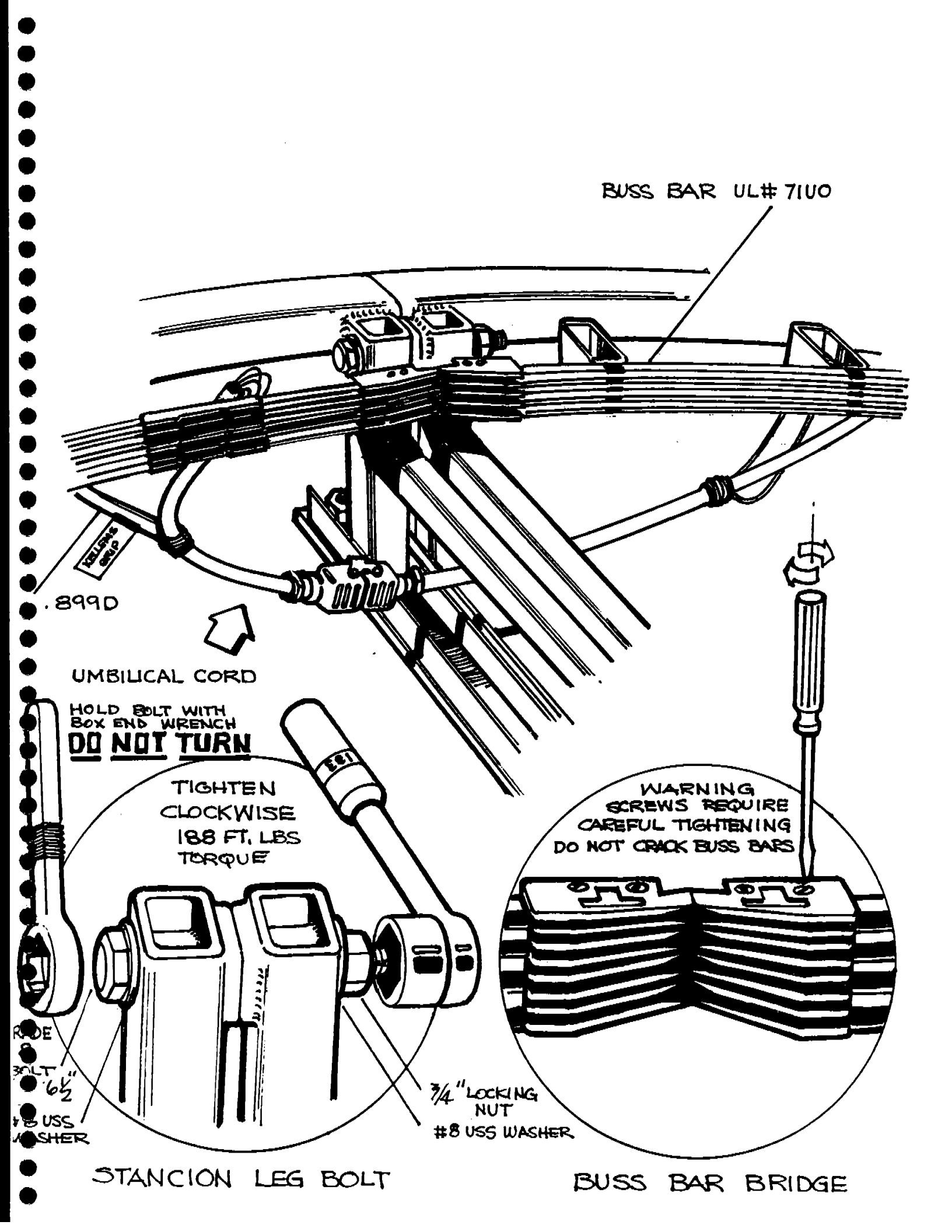


POWER OUTLET
CABLES TO
TRACKS

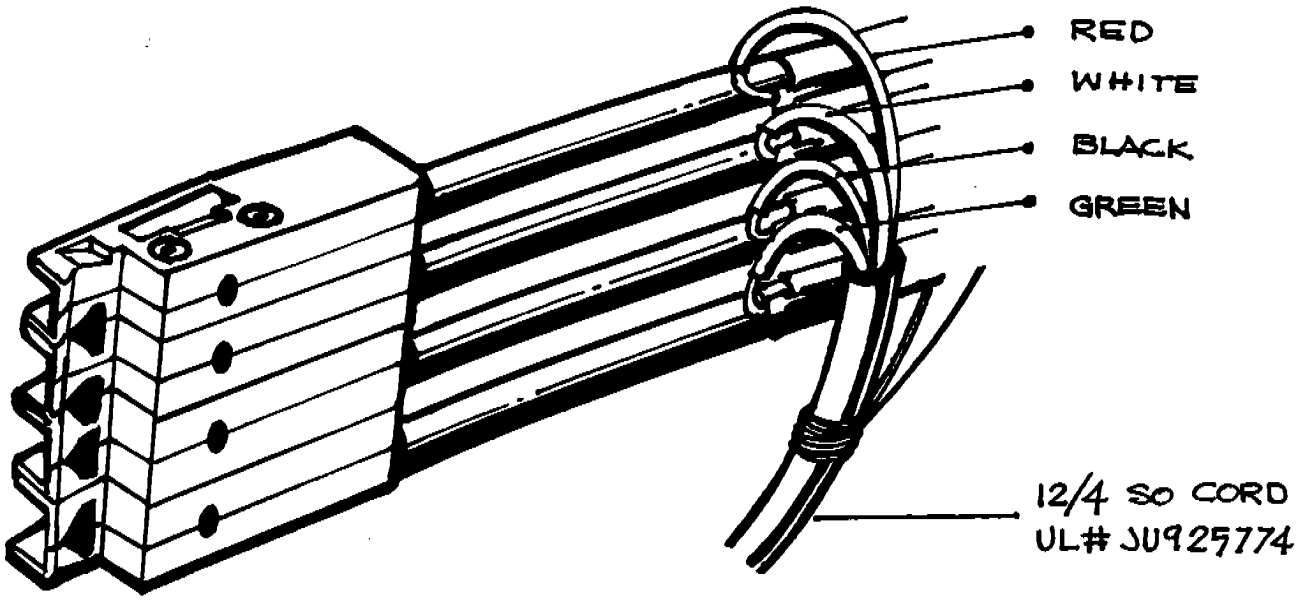
TRACK JUNCTION BOX

4 POLE WIRING LAYOUT

DOOR IS REMOVED FOR CLARITY
OF THE WIRING DIAGRAHAM


BUSS BAR UL# 7IUO
.899D
UMBILICAL CORD
HOLD BOLT WITH BOX END WRENCH
DO NOT TURN
TIGHTEN CLOCKWISE 188 FT. LBS TORQUE
WARNING SCREWS REQUIRE CAREFUL TIGHTENING DO NOT CRACK BUSS BARS
3/4" LOCKING NUT
#8 USS WASHER
STANCION LEG BOLT
BUSS BAR BRIDGE

COLOR CODED WIRING



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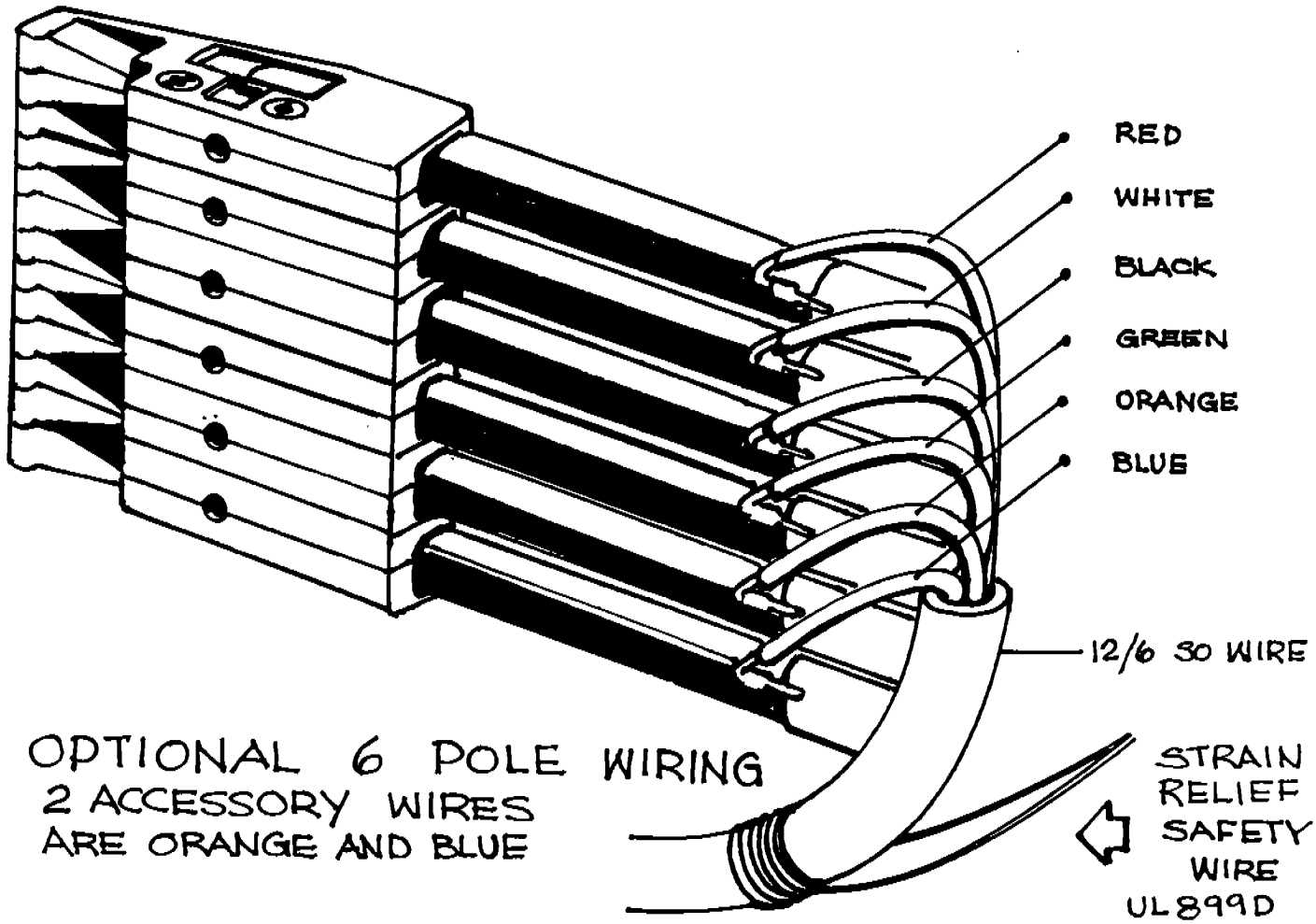
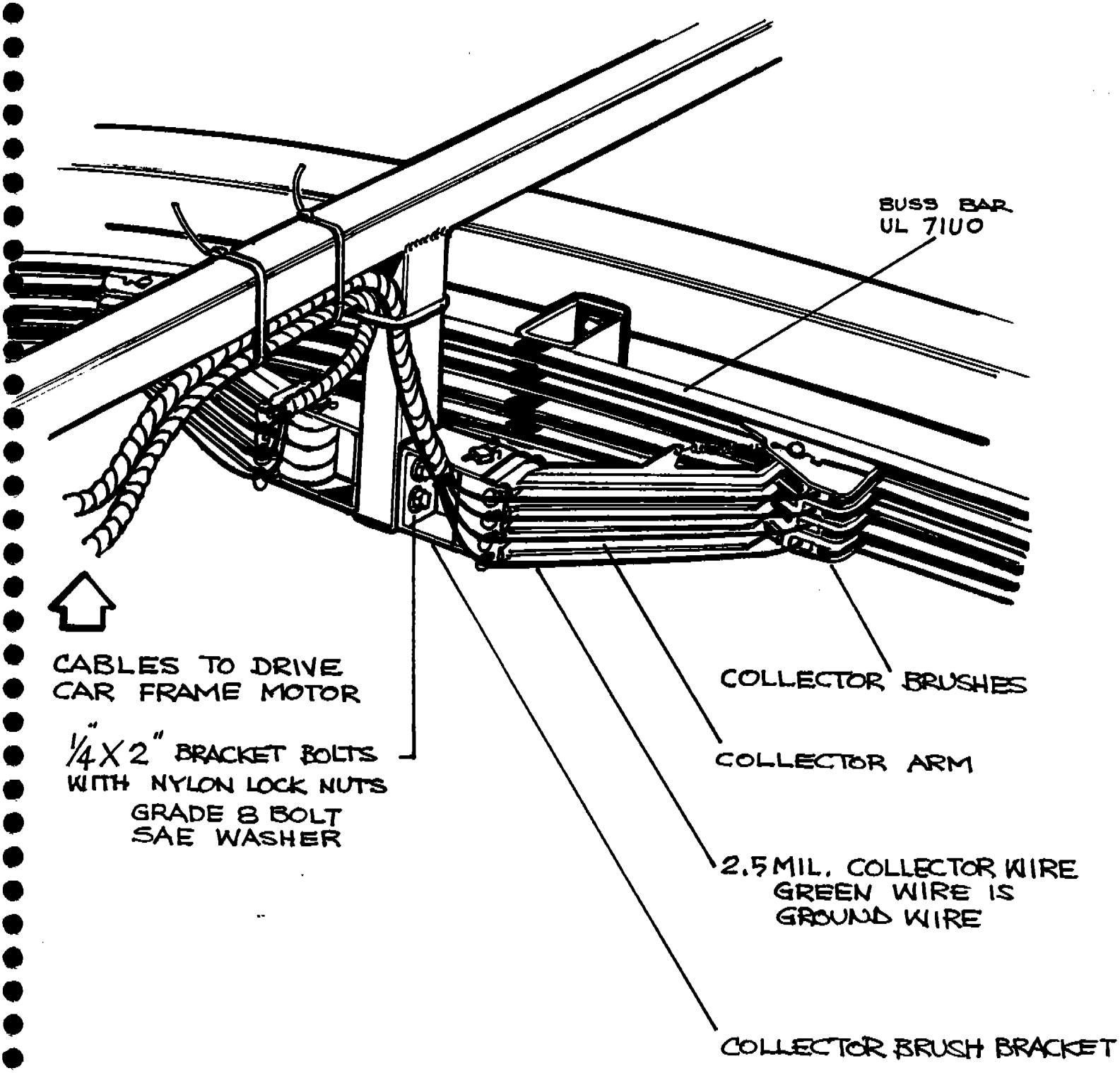


B. OPTIONAL 6 POLE WIRING
2 ACCESSORY WIRES ARE ORANGE AND BLUE

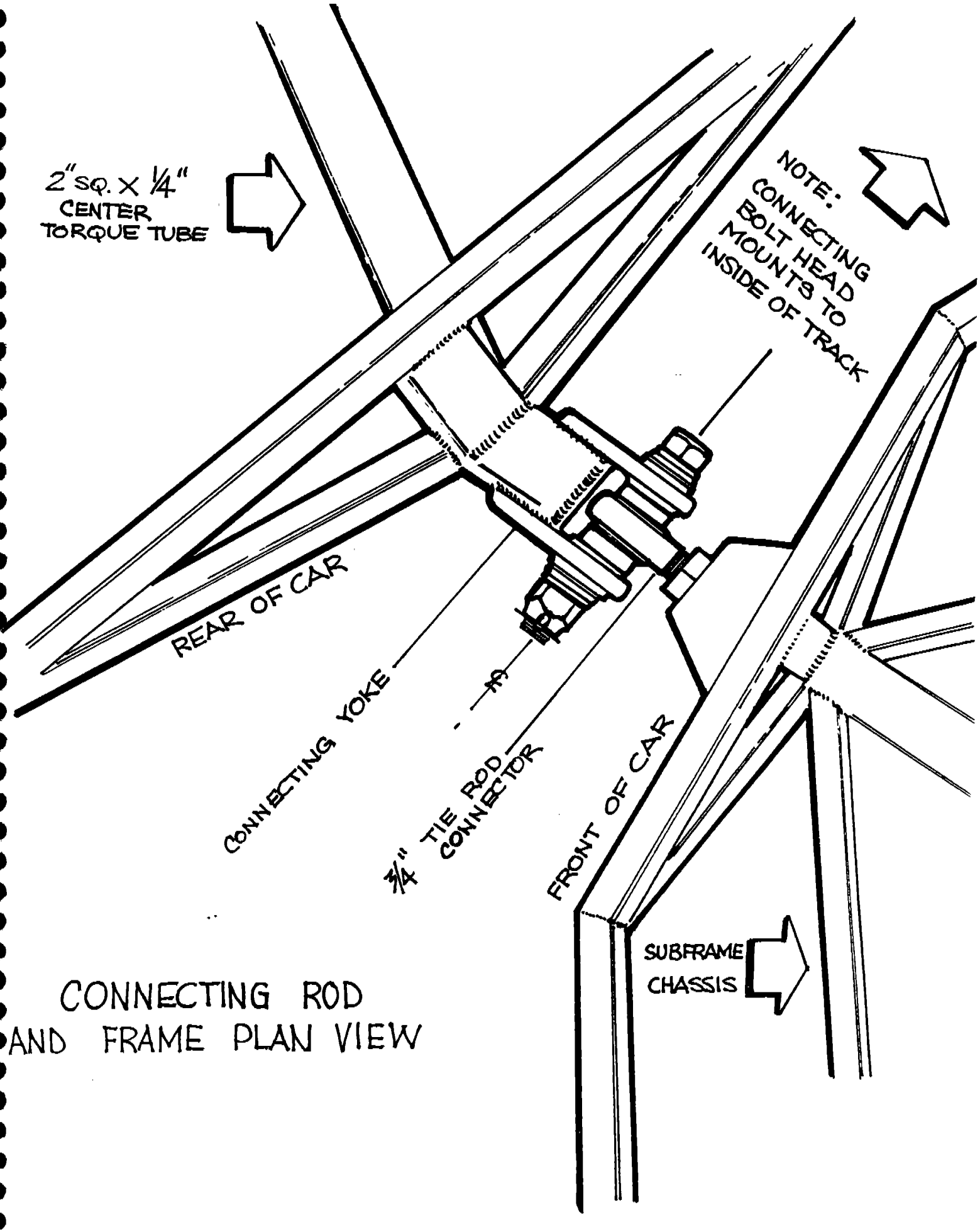


4 POLE COLLECTOR BRUSH ASSEMBLY

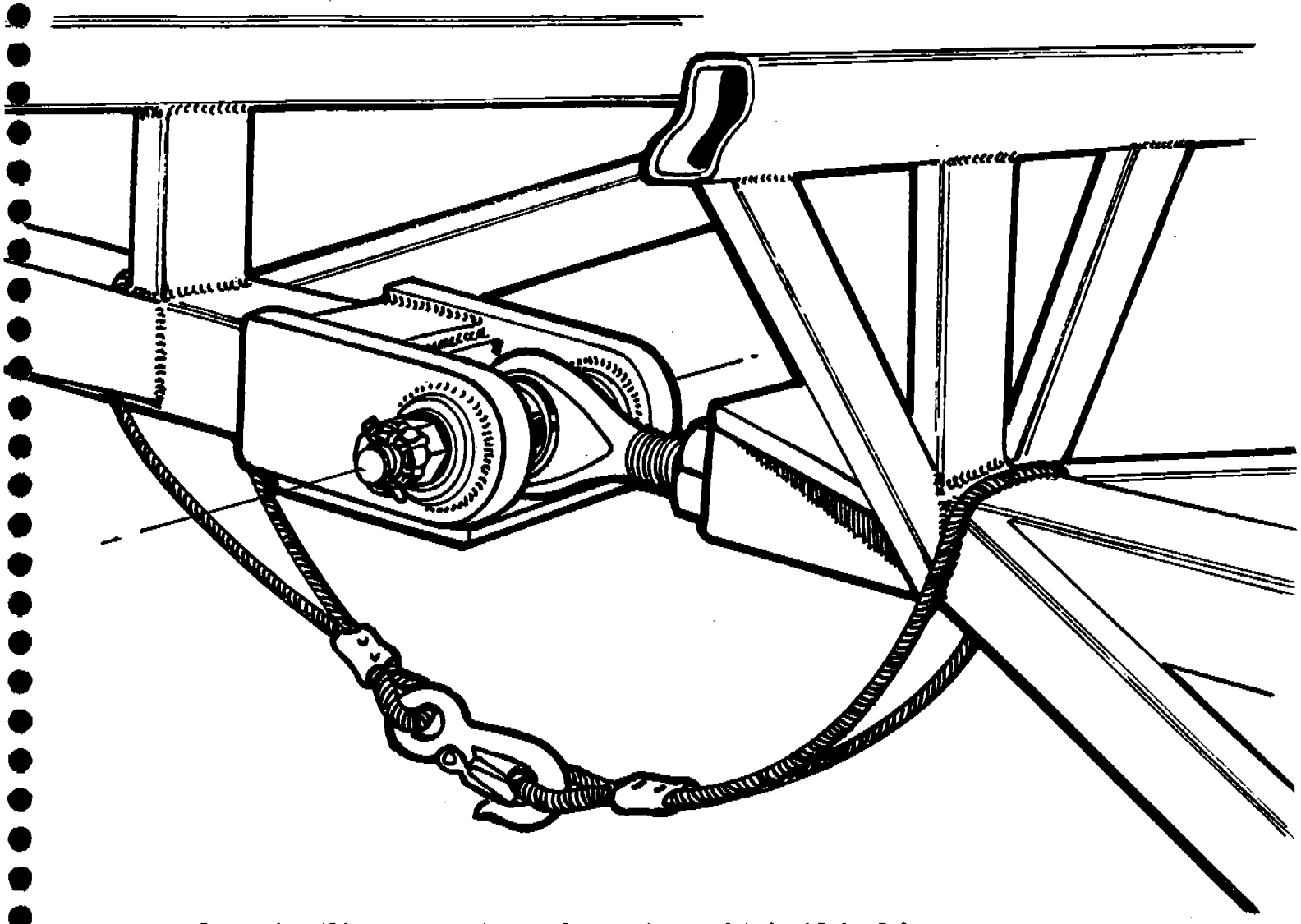
UL # 7100

II. TRACK ASSEMBLY

III. CAR FRAME ASSEMBLY



CONNECTING ROD AND FRAME PLAN VIEW



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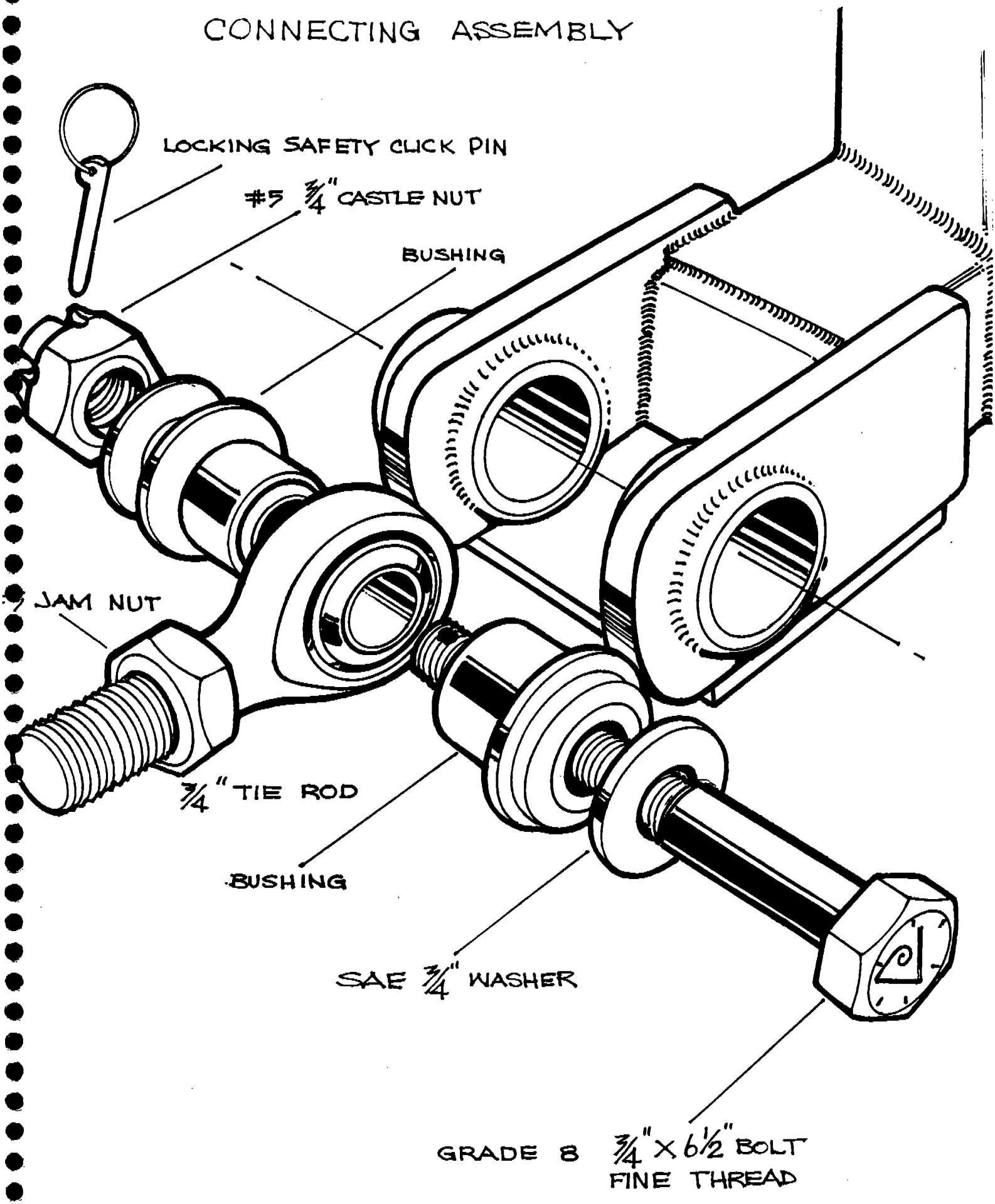
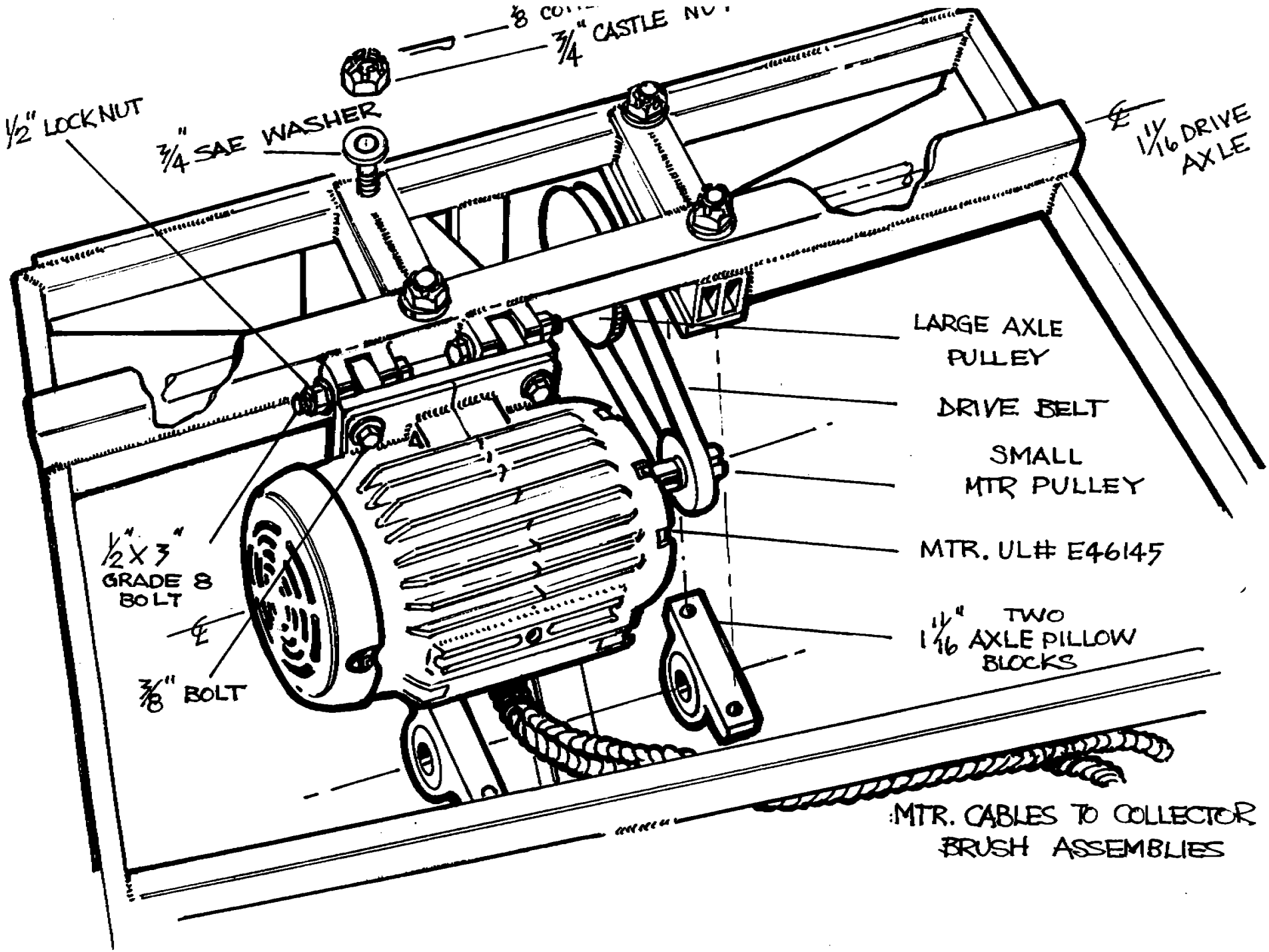
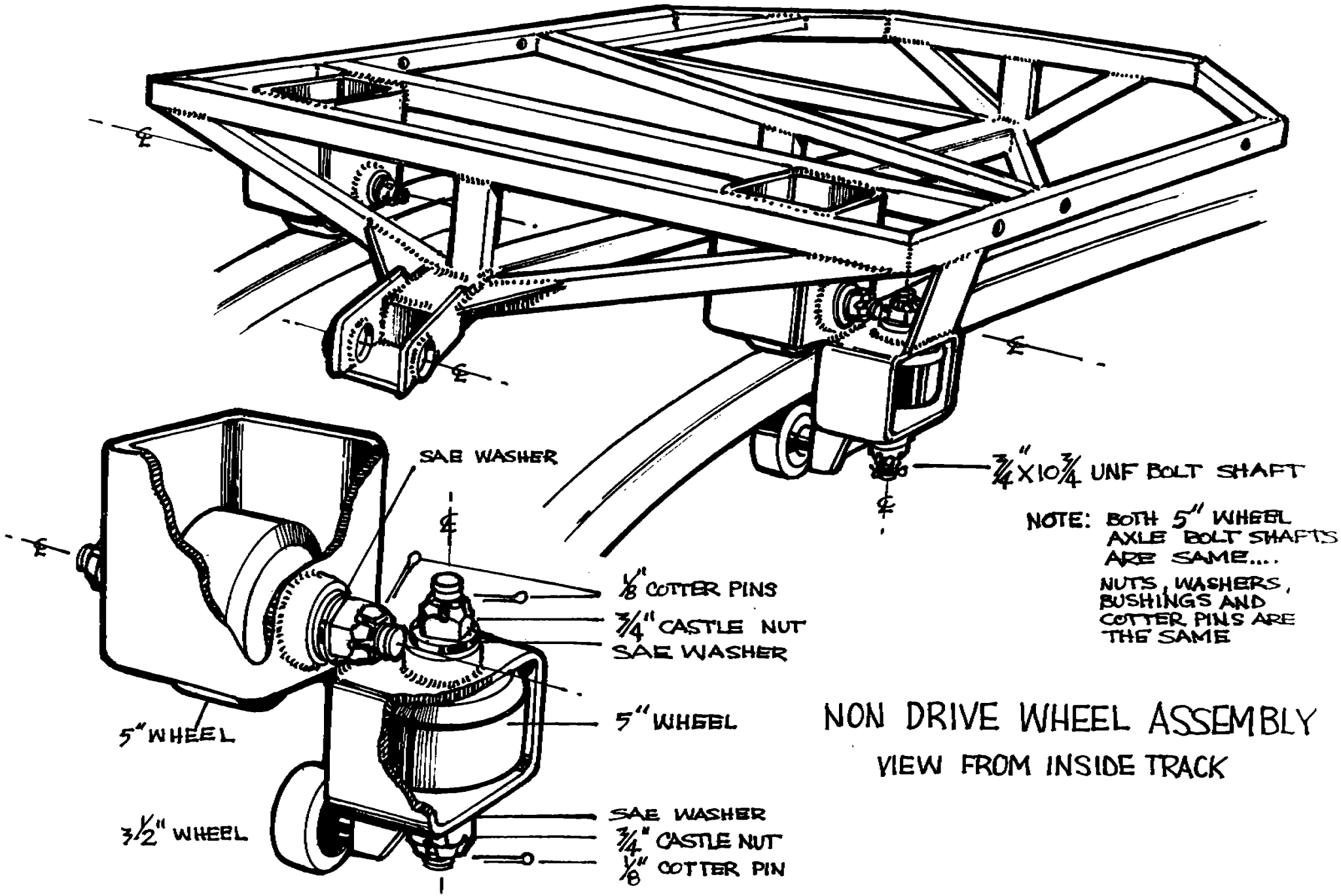
- STAINLESS LOOP SLEVE — 5440 LBS.

CONNECTING ASSEMBLY





5 H.P. DRIVE MOTOR ASSEMBLY

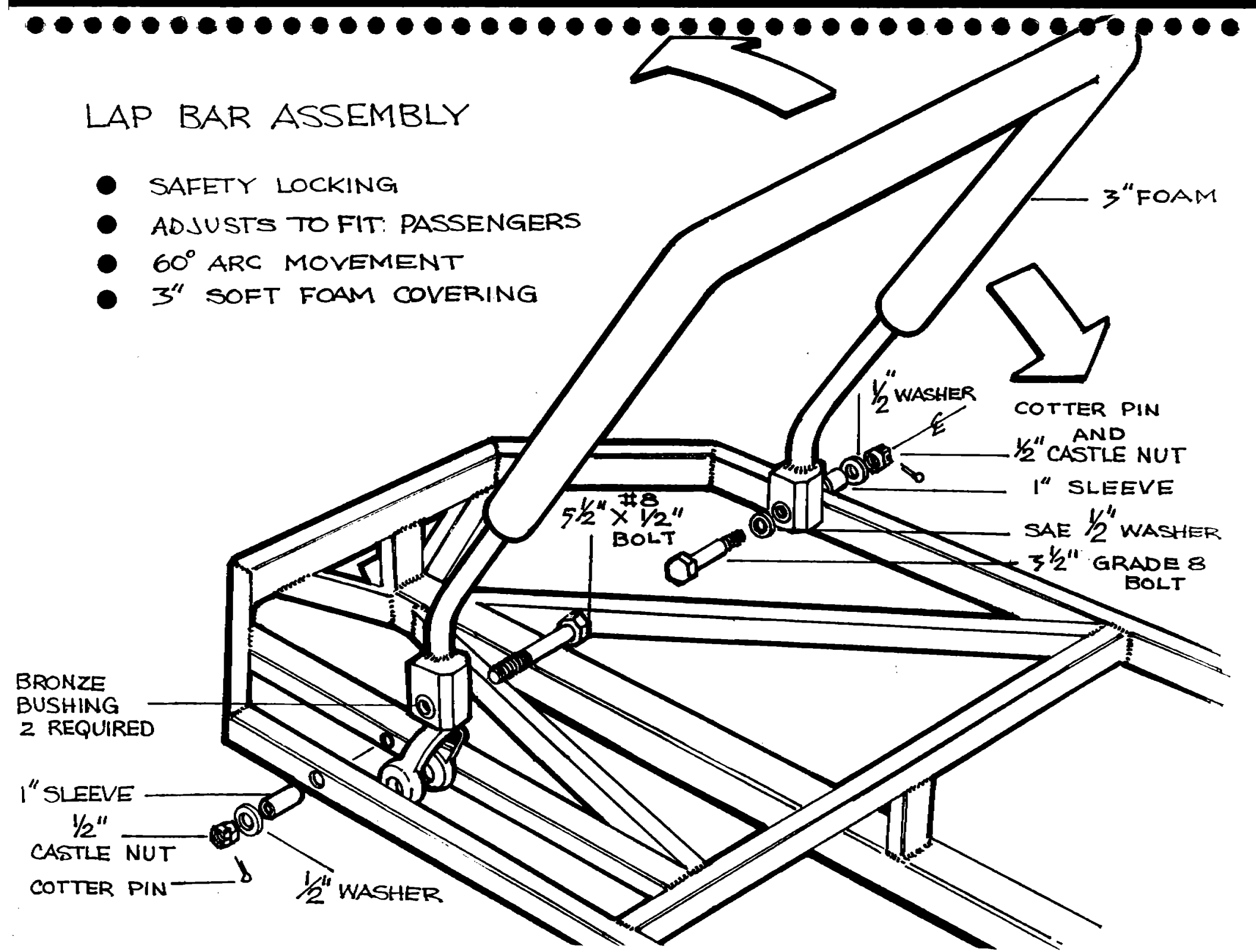


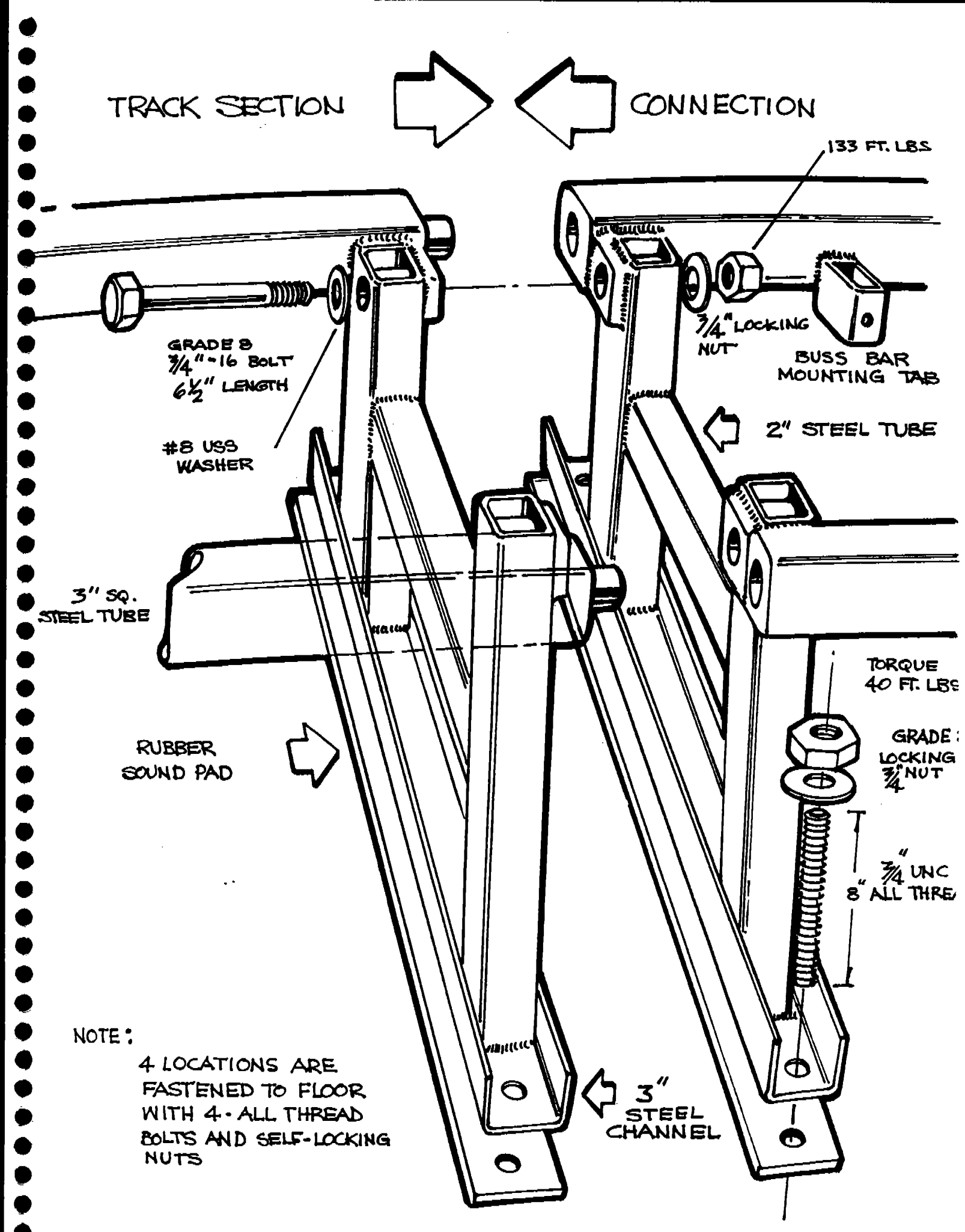
NON DRIVE WHEEL ASSEMBLY

VIEW FROM INSIDE TRACK

LAP BAR ASSEMBLY

- SAFETY LOCKING
- ADJUSTS TO FIT: PASSENGERS
- 60° ARC MOVEMENT
- 3" SOFT FOAM COVERING




TRACK SECTION
CONNECTION
133 FT. LBS.
3/4" LOCKING NUT
BUSS BAR MOUNTING TAB
GRADE 8 3/4"-16 BOLT 6 1/2" LENGTH
#8 USS WASHER
2" STEEL TUBE
3" SQ. STEEL TUBE
TORQUE 40 FT. LBS
RUBBER SOUND PAD
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NOTE:
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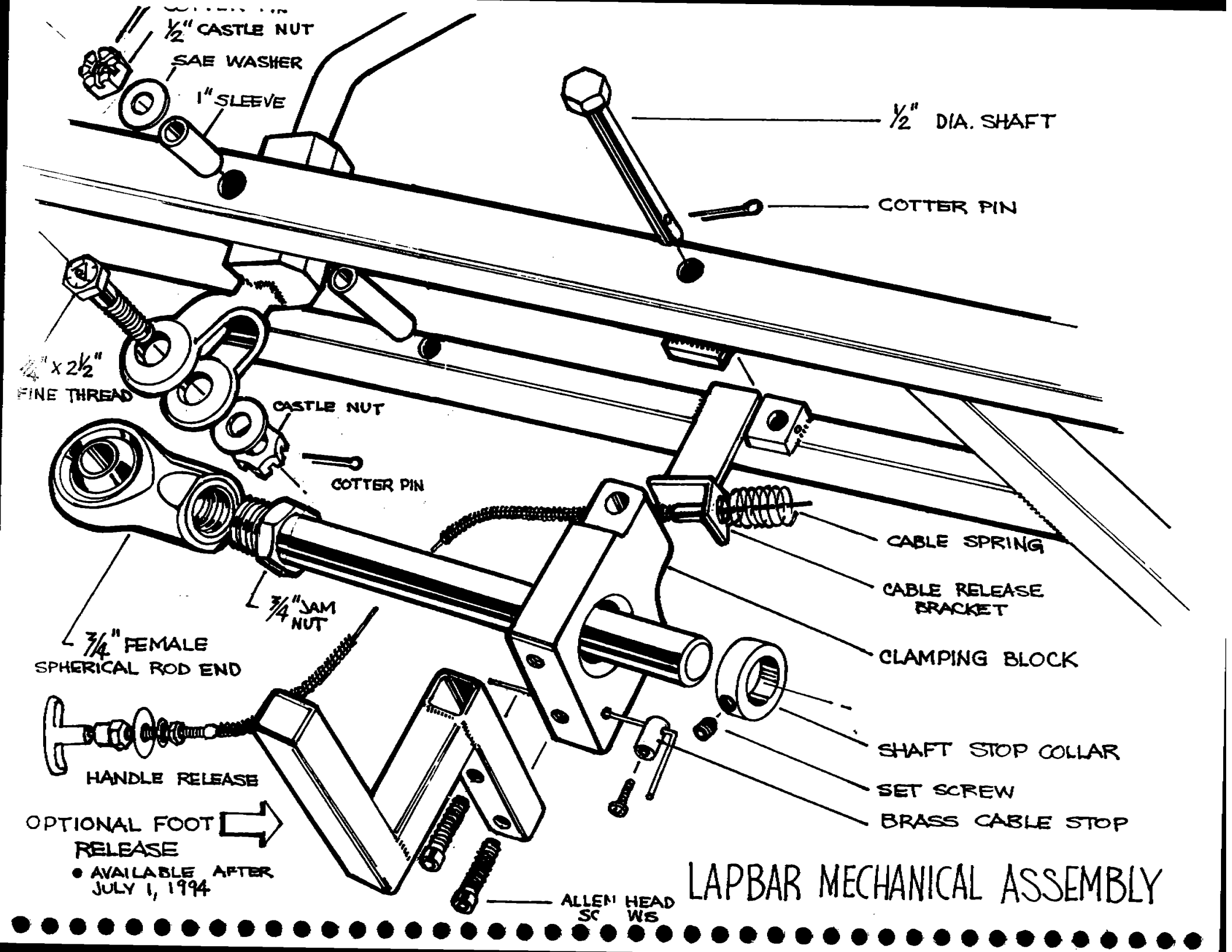
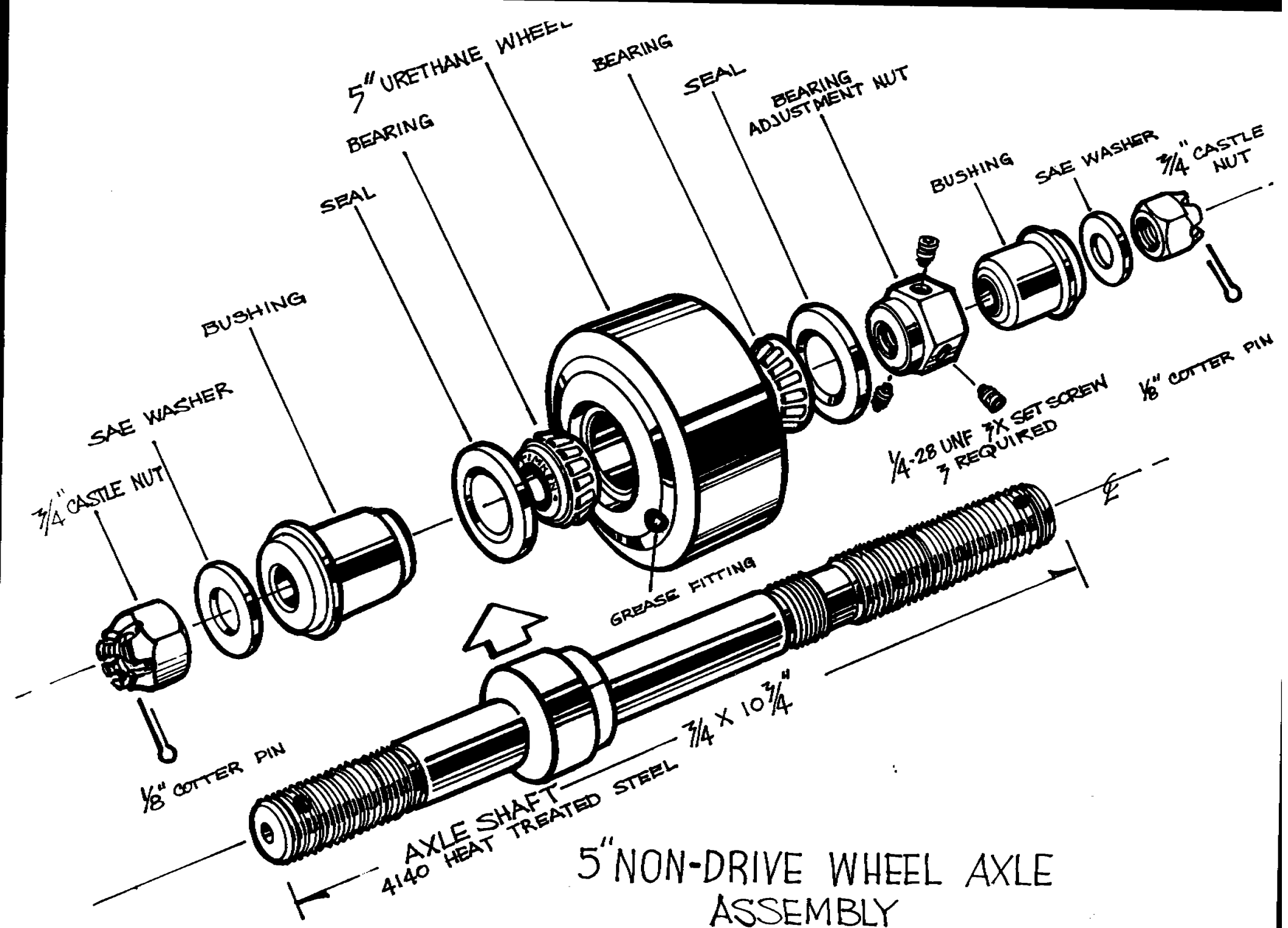

½" CASTLE NUT
SAE WASHER
1" SLEEVE
½" DIA. SHAFT
COTTER PIN
⅜" x 2½"
FINE THREAD
CASTLE NUT
COTTER PIN
CABLE SPRING
CABLE RELEASE BRACKET
¾" JAM NUT
¾" FEMALE SPHERICAL ROD END
CLAMPING BLOCK
SHAFT STOP COLLAR
SET SCREW
BRASS CABLE STOP
HANDLE RELEASE
OPTIONAL FOOT RELEASE
• AVAILABLE AFTER JULY 1, 1994
ALLEN HEAD SC WS
LAPBAR MECHANICAL ASSEMBLY



5" NON-DRIVE WHEEL AXLE ASSEMBLY