LIONEL SERVICE MANUAL

0TTP.95

NO. 397 COAL LOADER

No. 397 Coal Loader, first produced in 1948, consists of a coal receiving scoop and the loading conveyor belt, powered by a motor and gear box assembly and mounted on a metal die cast base.

In operation, a pair of cams mounted on a transverse extension of the motor shaft give the scoop a snapping reciprocating motion which 'kicks' the coal up the incline of the scoop into a storage well from where the coal is picked up by the moving conveyor belt and carried up for reloading into a waiting coal car.

A small number of the early 1948 models of the coal loader were also equipped with No. 70 lamp post mounted on the metal base. This lamp post was subsequently eliminated, and other changes were made in the details of the scoop, conveyor boom and motor to improve operation of the loader.

The coal loader motor operates on either a.c. or d.c. on voltage ranging from 12 to 15 volts, with the lowest possible voltage giving the most satisfactory operation. Any power source may be used for the loader, but when the same transformer is used for both the track and the loader it is important that the outside track rails and the loader binding post which is grounded to the metal base be connected to the same post of the transformer. Otherwise a short circuit may result when the coal loader base touches the track.

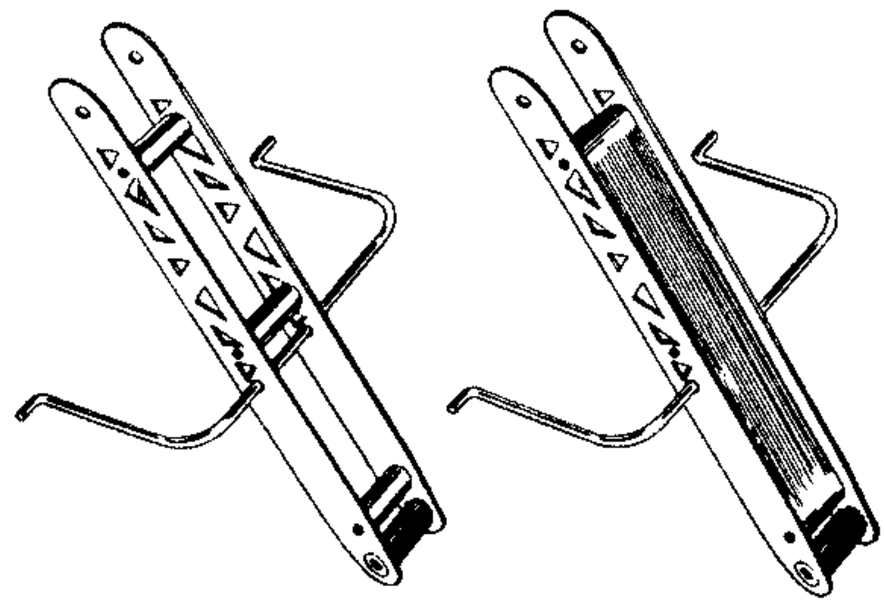
SERVICE HINTS

1. Motor Servicing

The loader motor and gear box are quite trouble-free and require little attention besides an occasional cleaning of the commutator and replacement of brushes. Gear box lubricant may be added through the motor cover screw hole. Note that in later models the motor brush plate using tubular brush holder and coil brush springs has been replaced by a brush plate using open brush holders and flat springs for better performance and easier servicing.

2. Jamming of Coal Under Conveyor

Occasionally, particularly in older models, trouble may be caused by pieces of coal accumulating under the conveyor belt. This may be avoided by wrapping a length of smooth masking tape or scotch tape around the conveyor beam spacers, as shown below. The

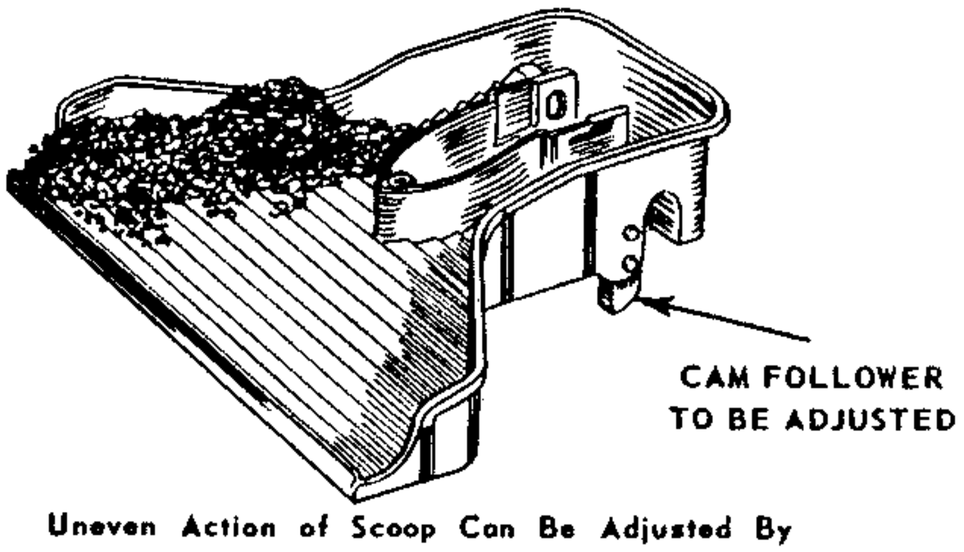


Scotch Tape Wrapped Around Conveyor Beam to Prevent Wedging of Coal Under Belt

beam may also be replaced with one of later design, illustrated on the following page. In later models Cover Clip 397-77 was added to prevent coal particles from jamming between the conveyor and the scoop. To assure proper operation the customer must be warned to use only Lionel No. 206 Artificial Coal which is screened to maintain proper size of particles.

3. Sticky Conveyor Belt

In some cases after continued use the inside surface of the conveyor belt may become sticky or tacky. This condition may cause uneven conveyor motion so that particles of coal bounce off the conveyor ridges, and in some cases may even cause the belt to stick and jam between the driving roller and the conveyor beam webbing. To eliminate this difficulty simply coat the inside of the belt and the beam surfaces against which it rubs with ordinary corn starch.



Uneven Action of Scoop Can Be Adjusted By Tapping Cam Follower on Bottom of Scoop

4. Uneven Action of Coal Scoop

If the two cam followers do not strike their cams simultaneously, the vibrating action of the scoop will be uneven, causing the coal to pile up on one side of the scoop. This can be corrected without dismantling the loader by raising the front of the scoop, placing a screwdriver or other long tool against the bottom of the cam follower located on the opposite to where the piling occurs, and tapping it sharply to bring the follower closer to its cam.

PRINTED IN U. S. OF AMERICA