



**ALTOONA CAR SHOPS**

**12<sup>TH</sup> ST. CAR SHOPS**

**DIAGRAMS**

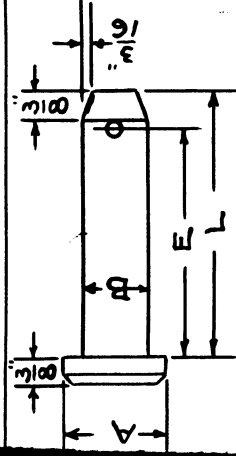


**BRAKE ARRANGEMENTS**

**RODS AND LEVERS**

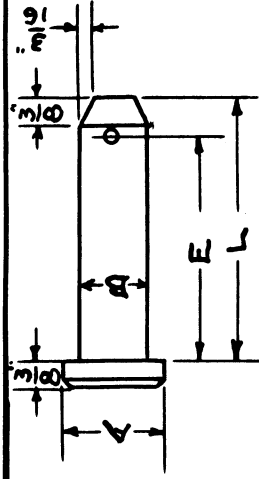
**A.C.S. SKETCH NO. 481**

*A.L.B.*



## BRAKE PINS

NO.	B	E	L	A
18	17/32	2 1/16	3 1/4	1 3/4
4	"	2 15/16	3 1/2	"
4 1/2	"	3 1/16	4 1/4	"
14	"	3 15/16	4 1/2	"
5	"	4 9/16	5 1/8	"
16	"	4 15/16	5 1/8	"
23	"	5 1/16	5 5/8	"
6	"	5 5/16	5 7/8	"
33	"	2 13/16	3 3/8	"
34	"	3	3 9/16	"
21	1 1/32	3 3/16	3 3/4	1 7/8
25	"	3 7/16	4	"
30	"	3 13/16	4 3/8	"
31	"	3 9/16	4 1/8	"
35	"	2 15/16	3 1/2	"
1	9/16	1 3/4	2 5/16	1 1/8
8	"	2 3/8	2 15/16	"
24	7/8	3 1/8	3 1/16	1 1/4

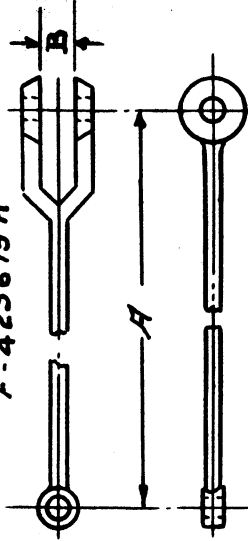


## BRAKE PINS

NO.	B	E	L	A
19	$1\frac{3}{32}$	$2\frac{5}{16}$	$2\frac{7}{8}$	$1\frac{5}{8}$
13	"	$2\frac{11}{16}$	$3\frac{1}{4}$	"
2	"	$2\frac{15}{16}$	$3\frac{1}{2}$	"
$2\frac{1}{2}$	"	$3\frac{7}{16}$	4	"
3	"	$3\frac{11}{16}$	$4\frac{1}{4}$	"
15	"	$4\frac{3}{16}$	$4\frac{3}{4}$	"
17	"	$4\frac{11}{16}$	$5\frac{1}{4}$	"
26	"	5	$5\frac{9}{16}$	"
27	"	$6\frac{1}{16}$	$6\frac{5}{8}$	"
28	"	$6\frac{7}{16}$	7	"
29	"	$5\frac{5}{16}$	$5\frac{7}{8}$	"
7	$1\frac{15}{32}$	3	$3\frac{9}{16}$	2
12	"	$3\frac{7}{16}$	4	"
20	"	$3\frac{11}{16}$	$4\frac{1}{4}$	"
32	"	$2\frac{15}{16}$	$3\frac{1}{2}$	"
22	$1\frac{23}{32}$	$2\frac{1}{2}$	$3\frac{1}{16}$	$2\frac{1}{4}$
11	"	$3\frac{1}{4}$	$3\frac{13}{16}$	"
36	"	$3\frac{9}{16}$	$4\frac{1}{8}$	"
9	$1\frac{27}{32}$	$4\frac{1}{4}$	$4\frac{13}{16}$	$2\frac{3}{8}$

E-415699-D

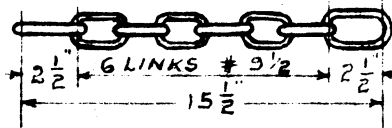
F-423615H

HAND BRAKE HOUSING CHAIN & BELL  
CRANK CONNECTING ROD

DET.	CLASS	A	B
1	G24	20 $\frac{1}{2}$	$\frac{1}{8}$
2	G29-G29A-G29B	13 $\frac{3}{4}$	$\frac{1}{8}$
2A	G29-G29A G29B EQUIPCO BRAKE ONLY	13 $\frac{3}{4}$	$\frac{1}{2}$
3	H21D	2-9 $\frac{3}{8}$	$\frac{1}{2}$
4	H30 EQUIPCO BRAKE ONLY	3-1 $\frac{3}{4}$	$\frac{1}{2}$
5	NSA	9	$\frac{1}{2}$
6	X31 X32 X33 X31F X31A PRIOR TO 11-1-35	6-10 $\frac{5}{16}$	$\frac{1}{8}$
7	X31A AFTER 11-1-35	7-3 $\frac{7}{16}$	$\frac{1}{8}$
8	X31B X31C X32A X32B X33A	7-5 $\frac{3}{16}$	$\frac{1}{8}$
9	X37	7-7 $\frac{1}{8}$	$\frac{1}{8}$
10	X37A X37B X38 PRIOR TO 1-1-41 X26C X26D	7-9 $\frac{1}{8}$	$\frac{1}{8}$
11	X29 POWER HAND BRAKE	6-4 $\frac{7}{8}$	$\frac{1}{2}$
12	X37B X38 AFTER 1-1-41 X38A	7-11 $\frac{5}{8}$	$\frac{1}{8}$
13	H31 EQUIPCO BRAKE ONLY	2-5	$\frac{1}{2}$
14	H31 H31A H31B	2-5	$\frac{1}{8}$
15	X40 X41 X41A X40A X40B X41B X41C	8-1 $\frac{1}{4}$	$\frac{1}{8}$
16	H30	3-1 $\frac{3}{4}$	$\frac{1}{8}$
17	H21E	2-6	$\frac{1}{8}$

# BELL CRANK CHAIN

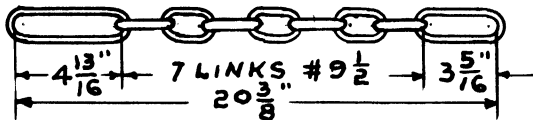
FOR BELL CRANK A.A.R.50



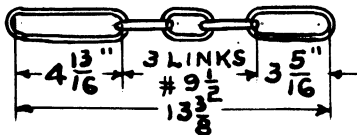
X 26 A.	X 32	X 37 B	X 45	N 5 A
X 26 C	X 32 A	X 38	X 46	N 6 A
X 29	X 32 B	X 38 A	X 47	N 6 B
X 29 B	X 32 C	X 40	G 24	FM.
X 31	X 32 D	X 40 A	G 27	
X 31 A	X 33	X 40 B	G 29	
X 31 B	X 33 A	X 41	G 29 C	
X 31 C	X 37	X 41 A	G 29 D	
X 31 F	X 37 A	X 41 B	G 32	
X 29 D		X 41 C	G 32 A	

E-451159-A

# BELL CRANK CHAIN FOR BOX CARS



EQUIPCO HAND BRAKE

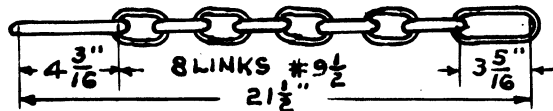


CHAMPION HAND BRAKE

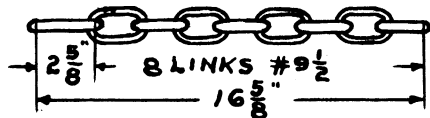


URECO HAND BRAKE

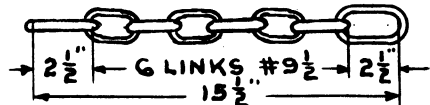
# BELL CRANK CHAIN FOR BOX CARS



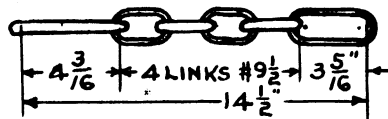
EQUIPCO HAND BRAKE  
WITH BELL CRANK E-339



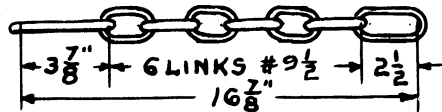
UNIVERSAL WITH BELL CRANK M-1694



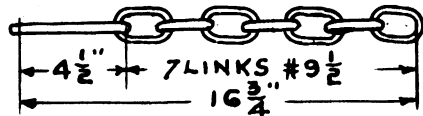
AJAX HAND BRAKE



CHAMPION HAND BRAKE



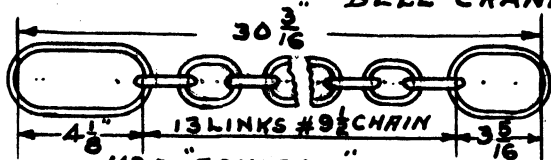
KLASING HAND BRAKE



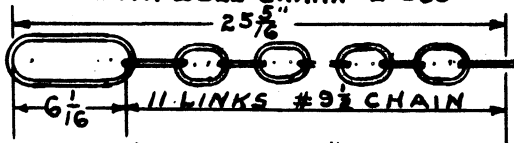
SUPERIOR HAND BRAKE

### BELL CRANK CHAIN

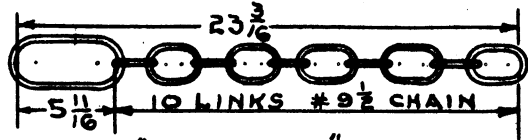
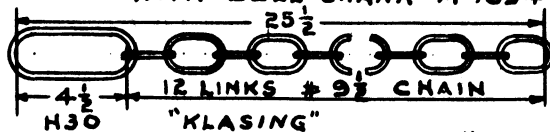
### HOPPER CARS



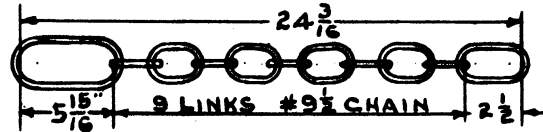
H30 "EQUIPCO"  
WITH BELL CRANK E-339



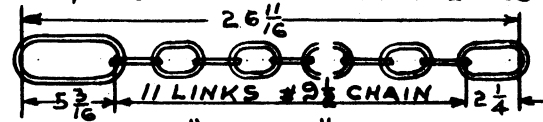
H30 "UNIVERSAL"  
WITH BELL CRANK M-1694



H30 "CHAMPION"



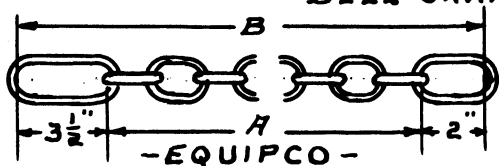
H30 "AJAX" M-2046  
"UNIVERSAL" WITH BELL CRANK  
"EQUIPCO" WITH BELL CRANK E-403



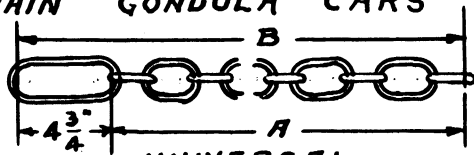
H30 "URECO"



## BELL CRANK CHAIN GONDOLA CARS



-EQUIPCO-



-UNIVERSAL-

CLASS	A	B
G33-G26A-G27	30 LINKS 4'-4 1/2"	4'-10"
G28-G30	31 LINKS 4'-6 1/4"	4'-11 3/4"
G31-G35	29 LINKS 4'-2 3/4"	4'-8 1/4"

CLASS	A	B
G26A-G27-G33	35 LINKS 4'-6 11/16"	4'-11 7/16"
G28-G30	36 LINKS 4'-8 1/4"	5'-1"
G31-G35	34 LINKS 4'-5 1/8"	4'-9 1/8"

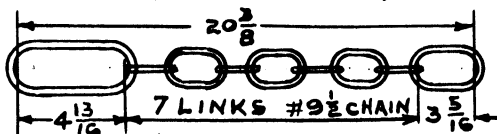
\*-KLASING-

CLASS	A	B
G33-G26A-G27	30 LINKS 4'-4 1/2"	4'-8 1/2"
G28-G30	31 LINKS 4'-6 1/4"	4'-10 1/4"
G31-G35	29 LINKS 4'-2 3/4"	4'-6 3/4"

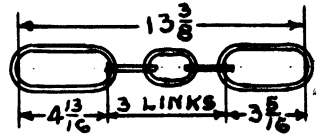
\*END LINK 4"

# BELL CRANK CHAIN

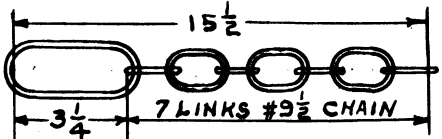
H31 H31A H31B H21E CARS



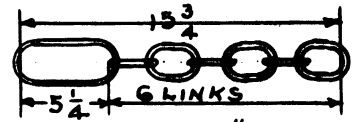
"EQUIPCO" WITH BELL CRANK No.339



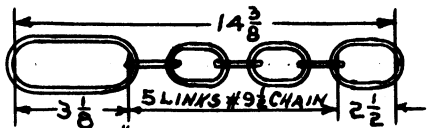
"CHAMPION"



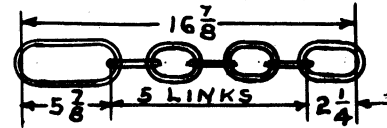
"UNIVERSAL" WITH BELL CRANK M-1694



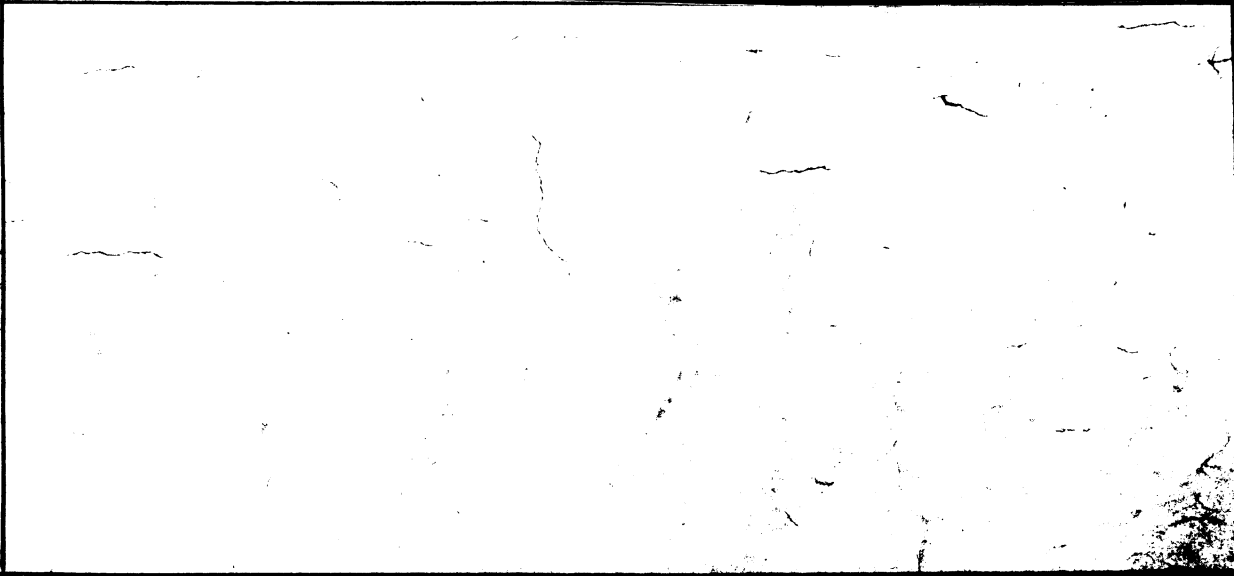
"KLASING"  
"SUPERIOR"



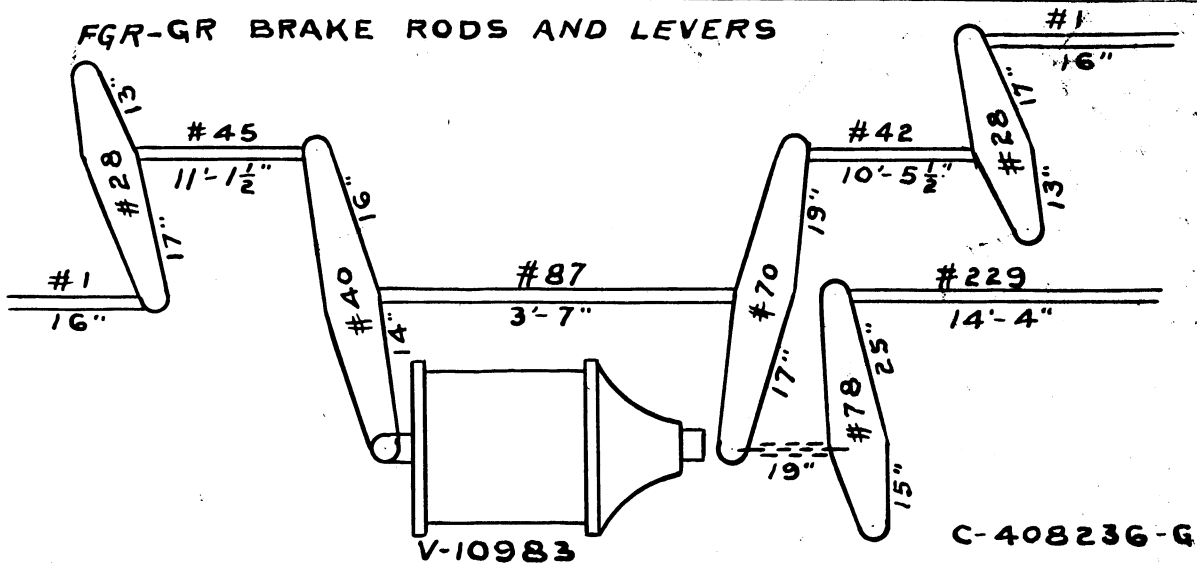
"UNIVERSAL" WITH BELL CRANK M-2046  
"EQUIPCO" " " " E-403



"URECO"

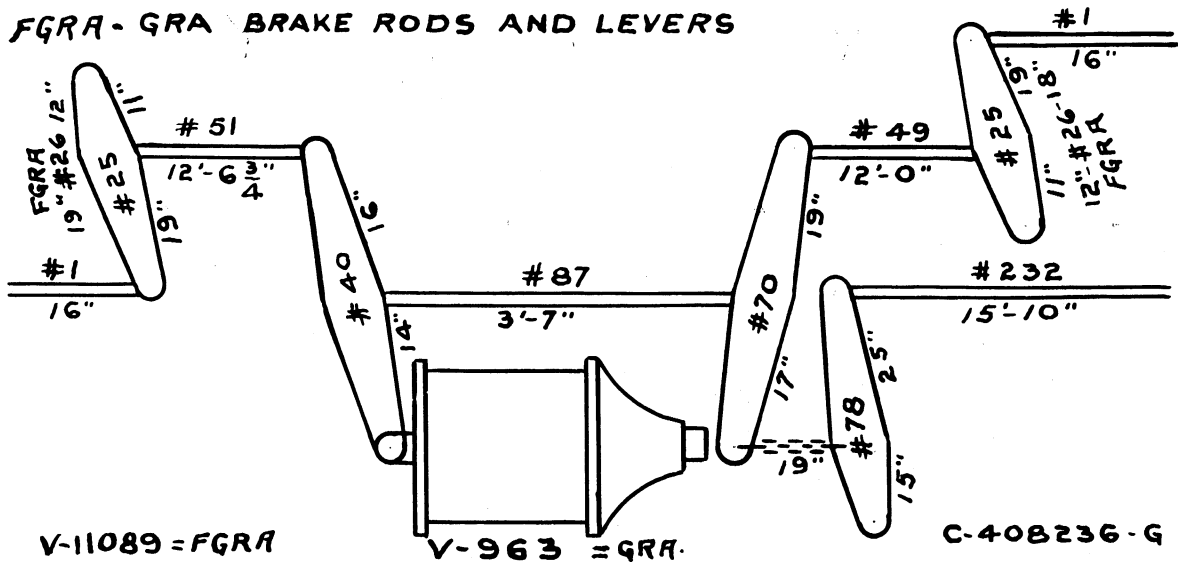


# FGR-GR BRAKE RODS AND LEVERS



C-408236-G

# FGRA - GRA BRAKE RODS AND LEVERS



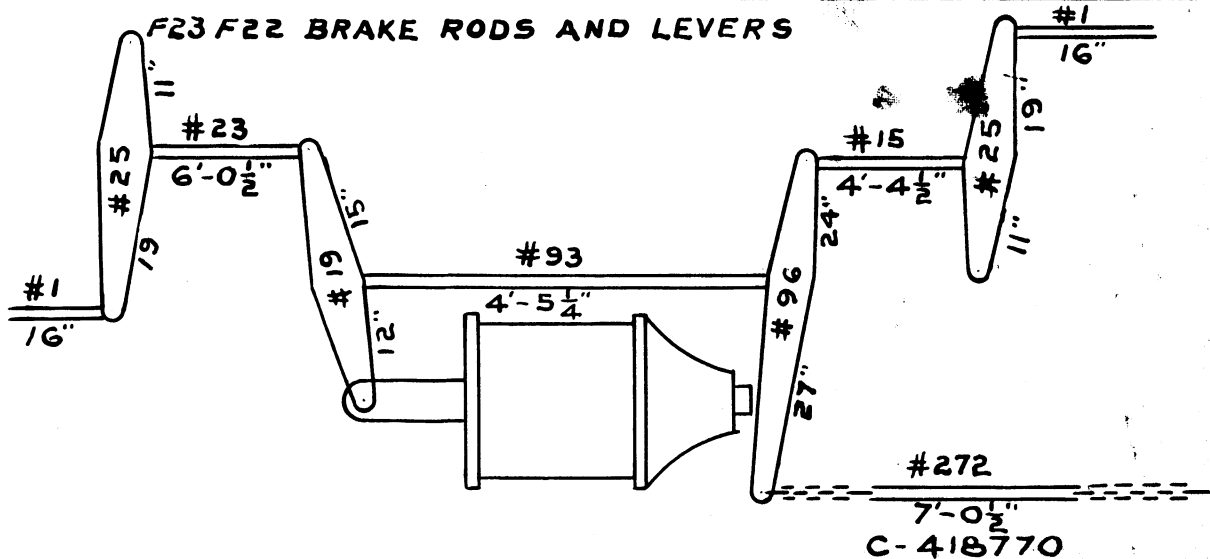
V-11089 = FGRA

V-963 = GRA.

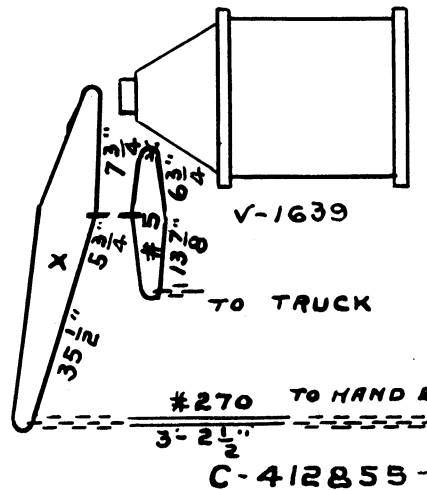
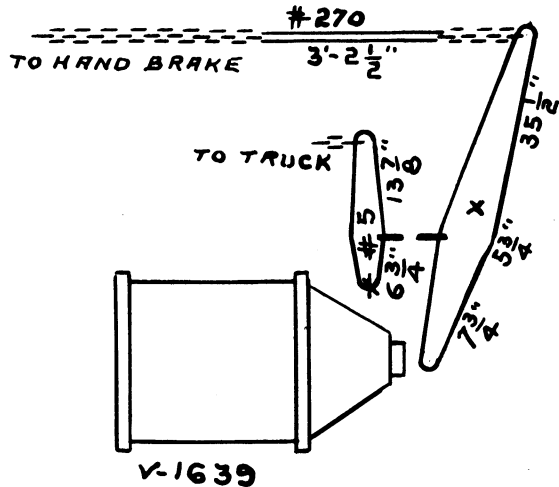
C-408236-G



# F23 F22 BRAKE RODS AND LEVERS

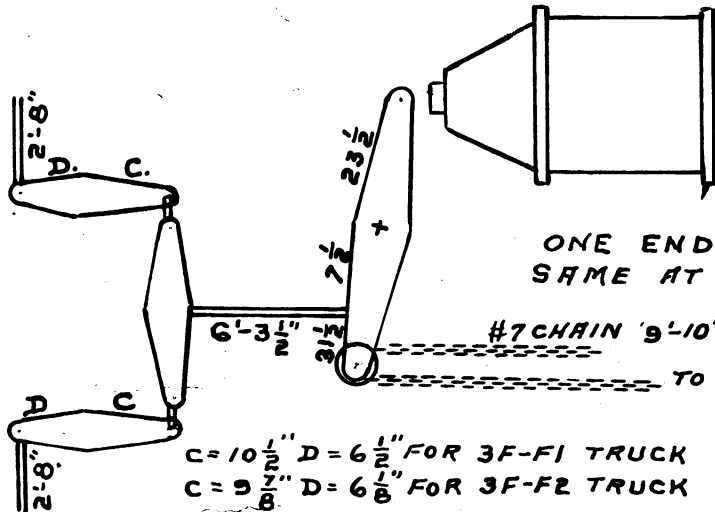


# F25 F25A F25B BRAKE RODS AND LEVERS





# F 29 BRAKE RODS AND LEVERS



V-11196 = 3F-F1 TK.  
 V-11905 = 3F-F2 TK

ONE END OF CAR SHOWN  
SAME AT BOTH ENDS

#7 CHAIN '9'-10" LG.

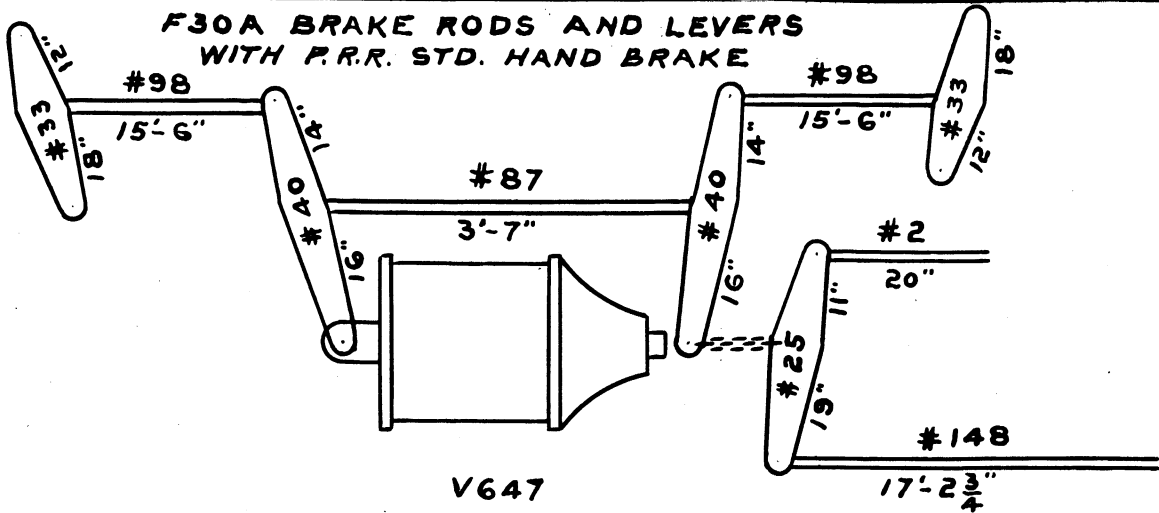
TO HAND BRAKE

$C = 10\frac{1}{2}"$   $D = 6\frac{1}{2}"$  FOR 3F-F1 TRUCK  
 $C = 9\frac{7}{8}"$   $D = 6\frac{1}{8}"$  FOR 3F-F2 TRUCK

C-429723-D



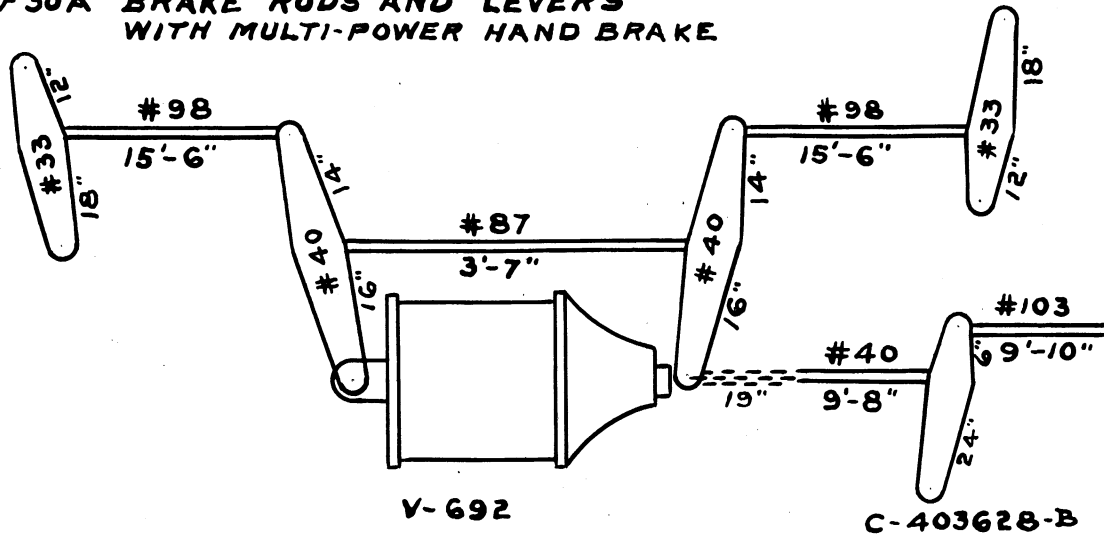
F30A BRAKE RODS AND LEVERS  
WITH P.R.R. STD. HAND BRAKE



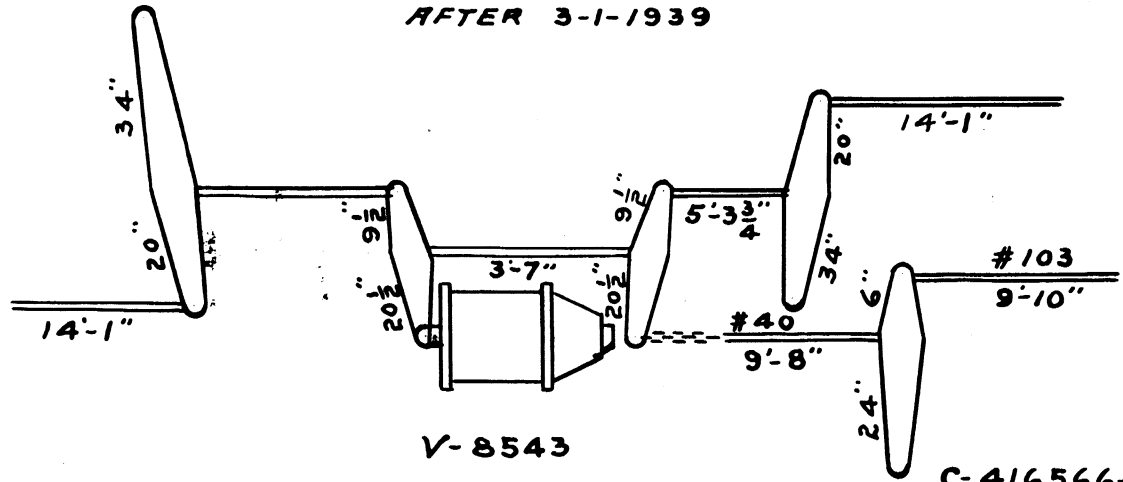
V647

C-402684-B

**F30A BRAKE RODS AND LEVERS  
WITH MULTI-POWER HAND BRAKE**



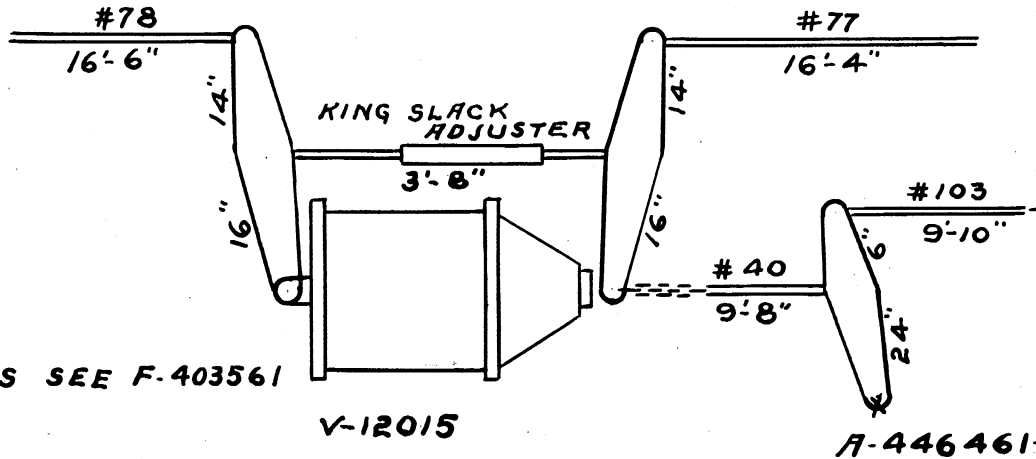
# F30A BRAKE RODS AND LEVERS AFTER 3-1-1939



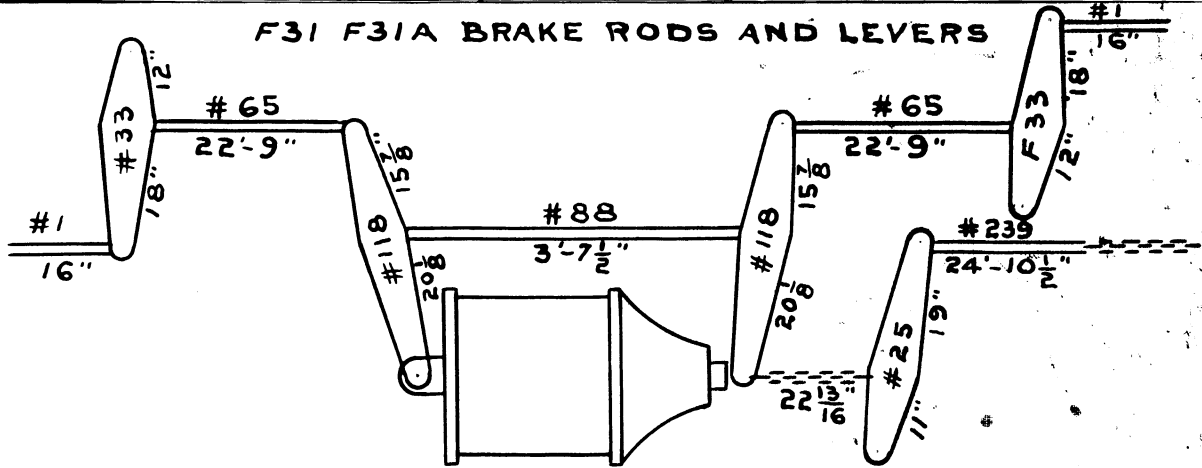
V-8543

C-416566-B

# F30D BRAKE RODS AND LEVERS



# F31 F31A BRAKE RODS AND LEVERS

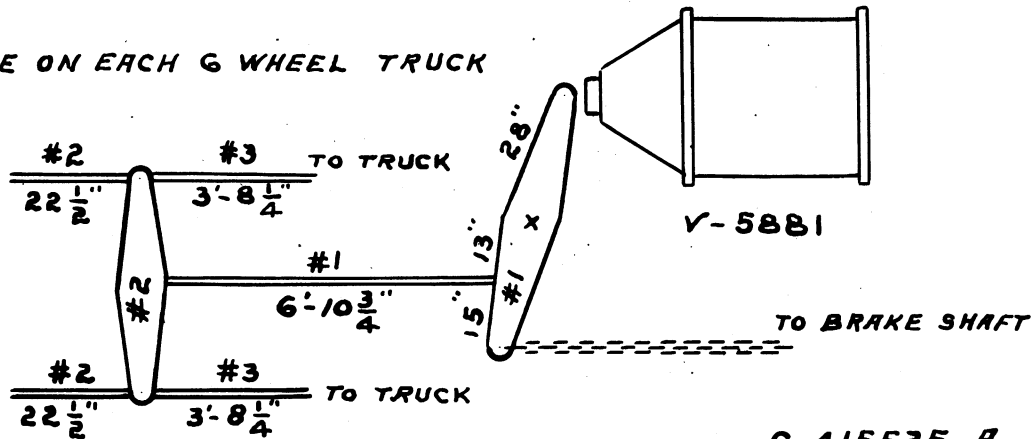


Y-9715

C-431829-A

# F33 BRAKE RODS AND LEVERS

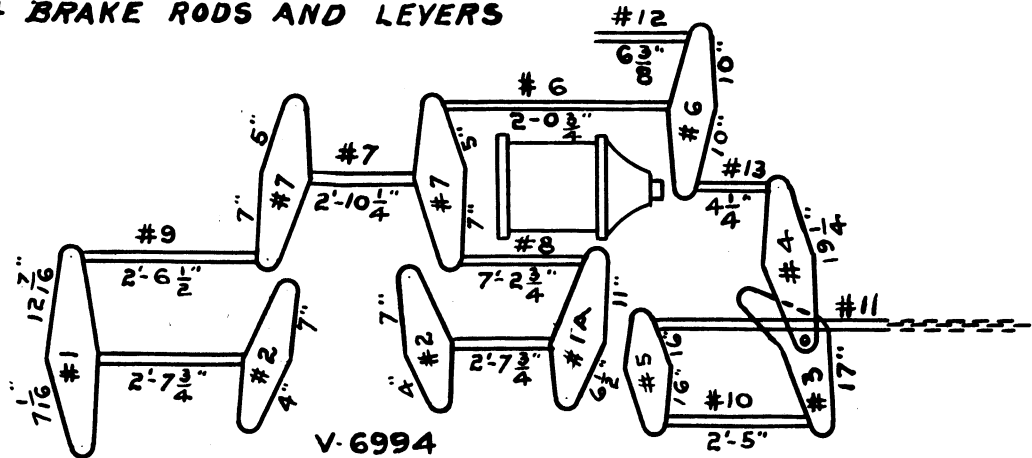
BRAKE ON EACH 6 WHEEL TRUCK



C-415535-A



# F34 BRAKE RODS AND LEVERS

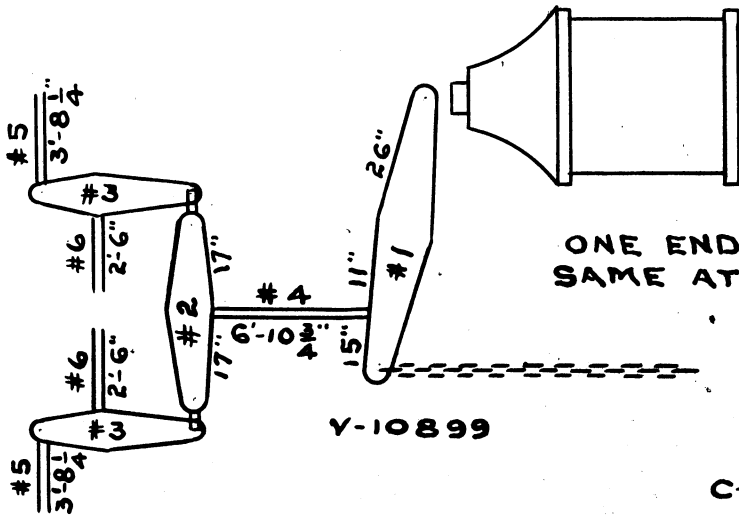


V-6994

ONE END OF CAR SHOWN  
SAME AT BOTH ENDS

A-415640-B

# F 35 BRAKE RODS AND LEVERS

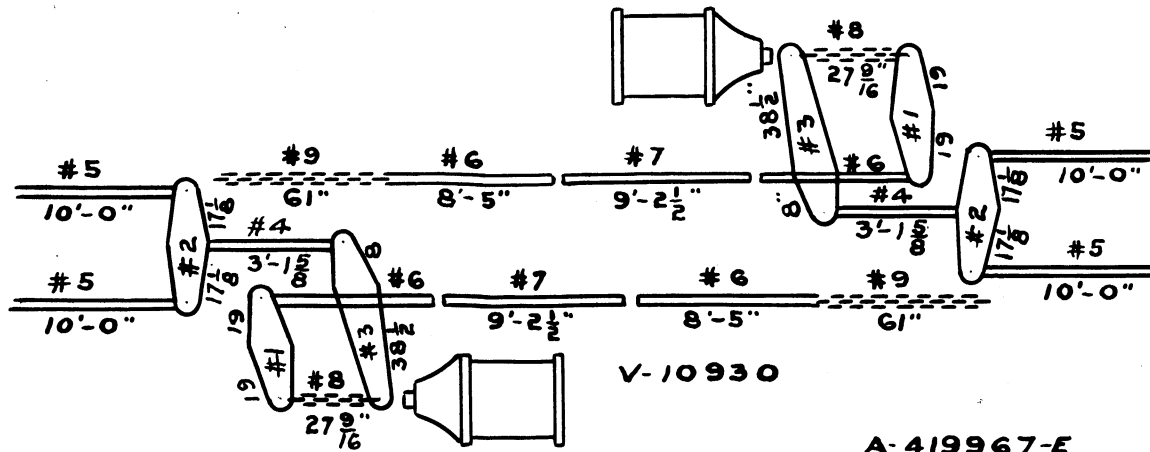


ONE END OF CAR SHOWN  
SAME AT BOTH ENDS

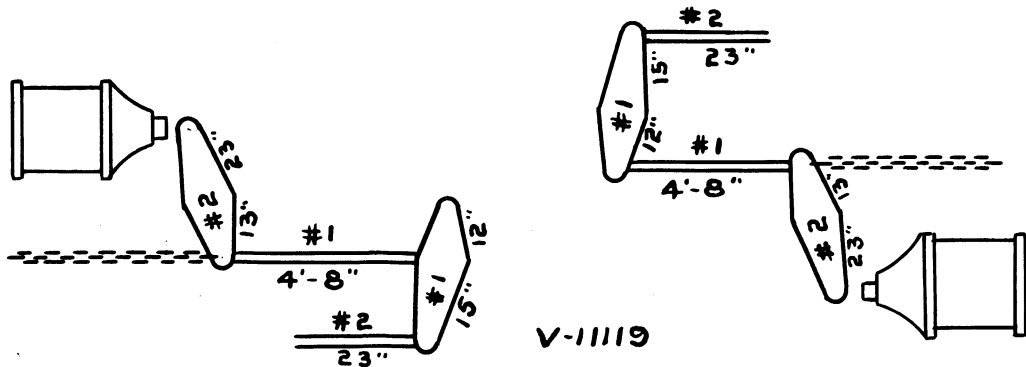
Y-10899

C-419714-B

# F36 BRAKE RODS AND LEVERS



# F37 BRAKE RODS AND LEVERS

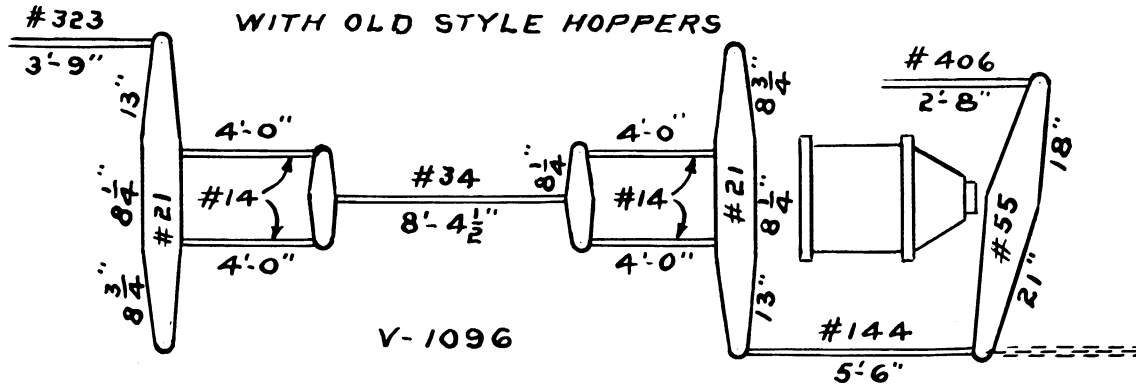


FOR BRAKE RODS SEE - F-426336

" " LEVERS " - F-426335

A-426343

GLA BRAKE RODS AND LEVERS  
WITH OLD STYLE HOPPERS



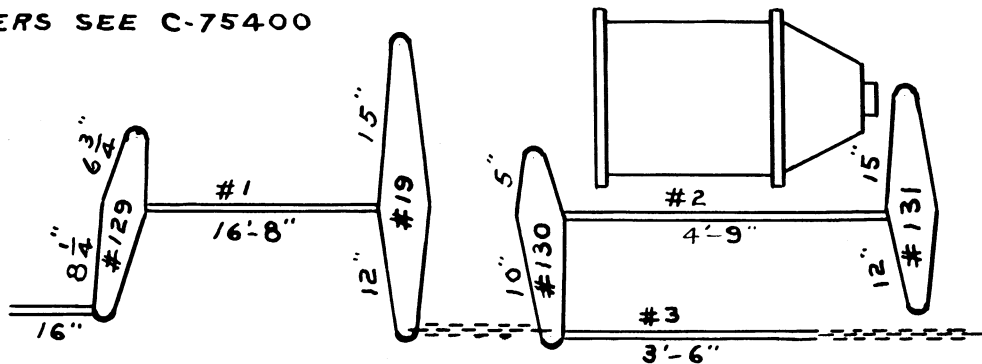
V-1096

C-410423-F

# GLD BRAKE RODS AND LEVERS

FOR RODS SEE E-427907

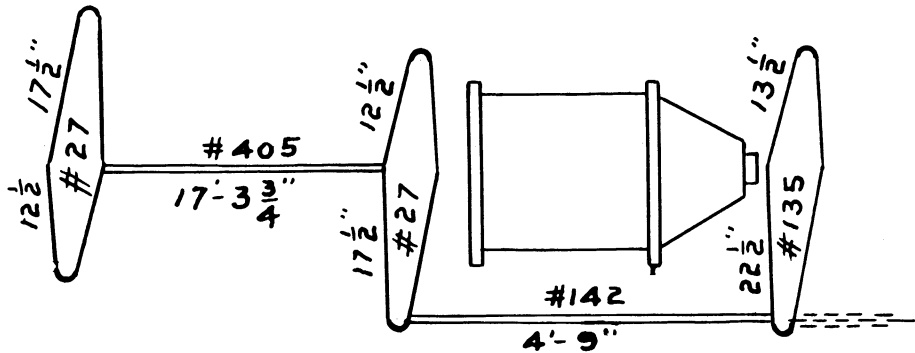
FOR LEVERS SEE C-75400



V-11141

C-427B49-B

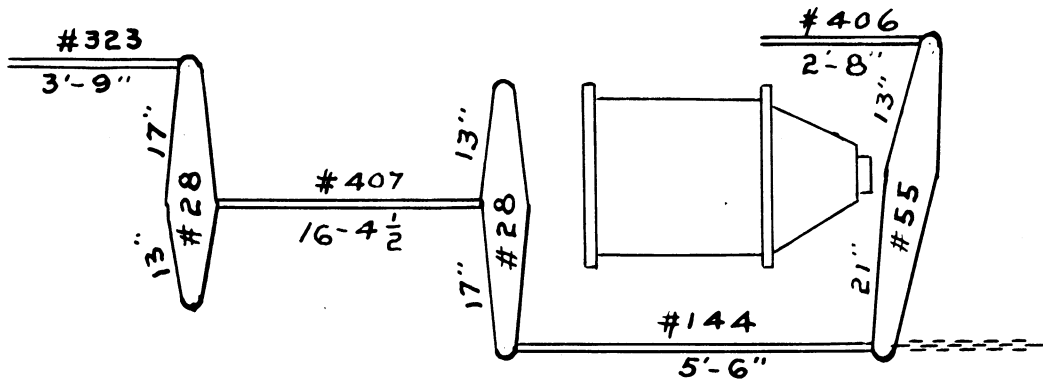
# GLE BRAKE RODS AND LEVERS



v-

C-428677

# GLA BRAKE RODS AND LEVERS

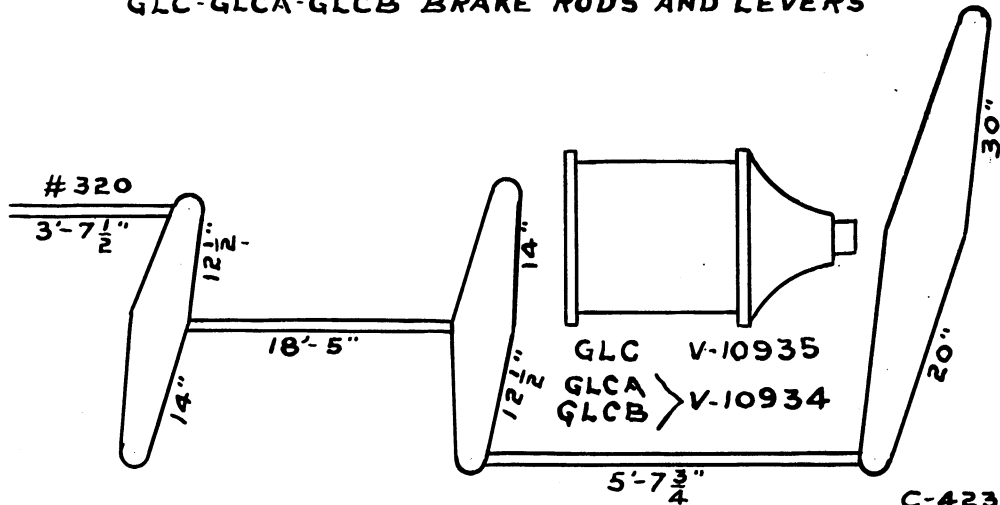


V-1096

C-410423-F

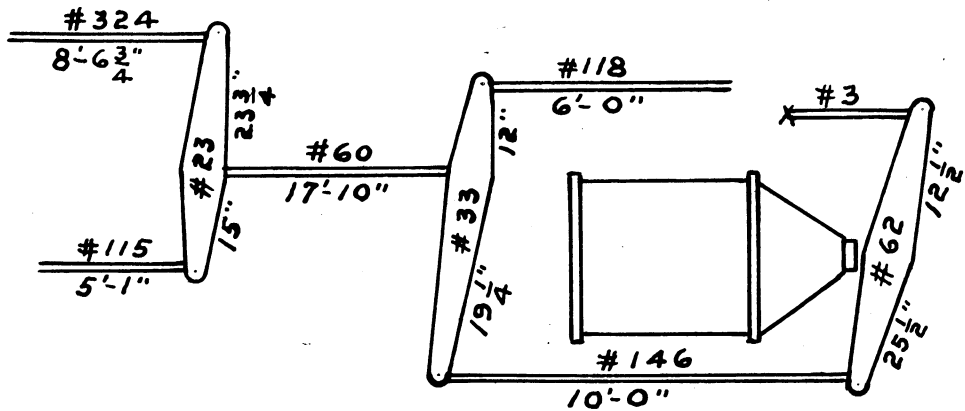


# GLC-GLCA-GLCB BRAKE RODS AND LEVERS



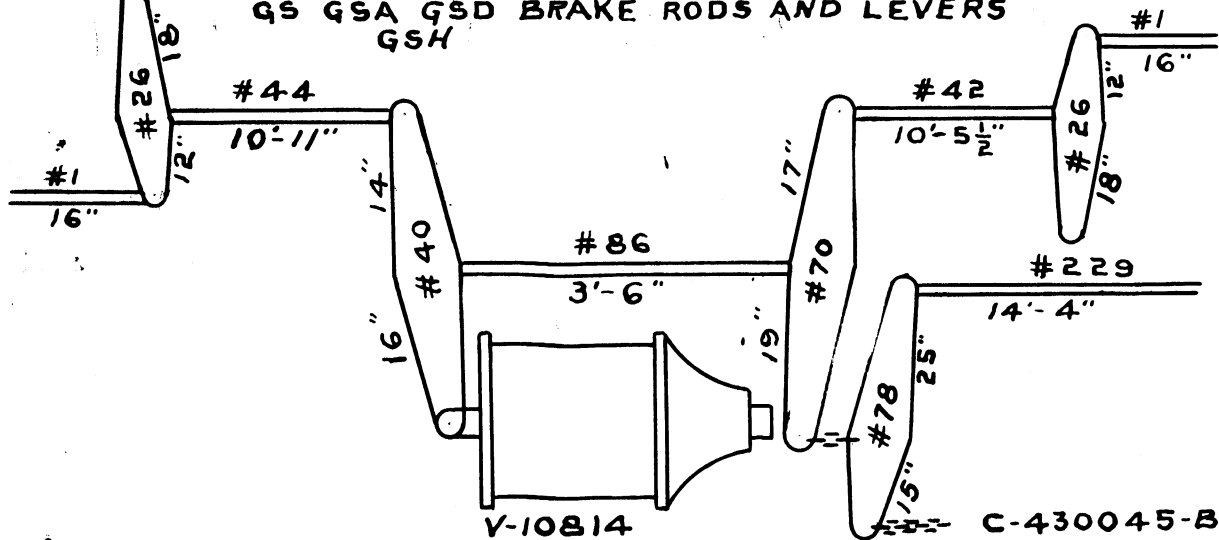
C-423754-D

# GP GPR BRAKE RODS AND LEVERS



C-75678-D

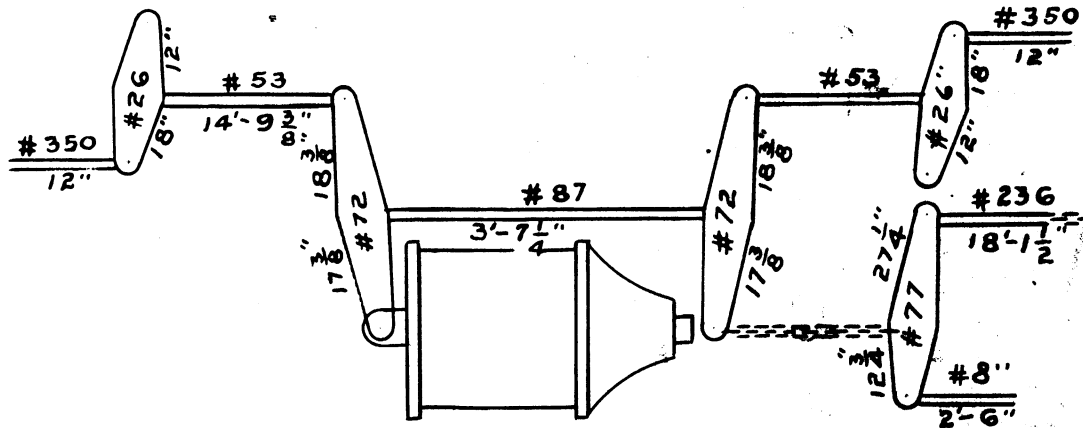
QS GSA QSD BRAKE RODS AND LEVERS  
GSH



V-10814

C-430045-B

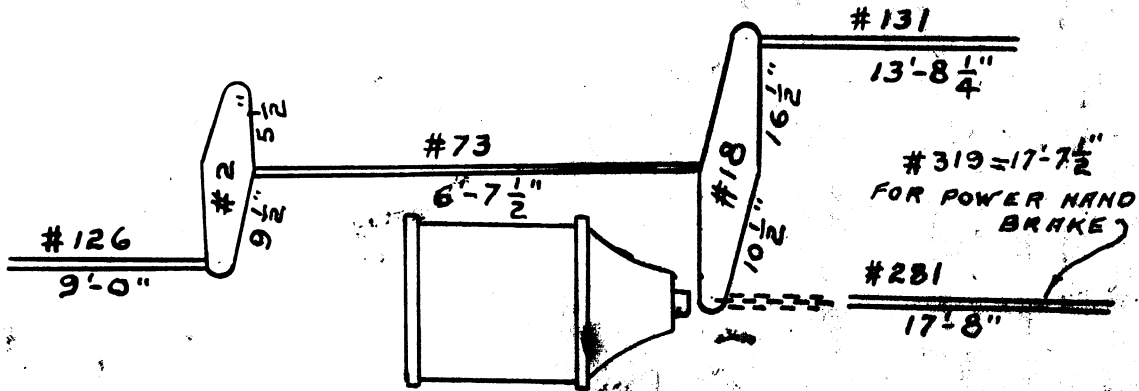
G 22 G 22A G 22B BRAKE RODS AND LEVERS



V-961

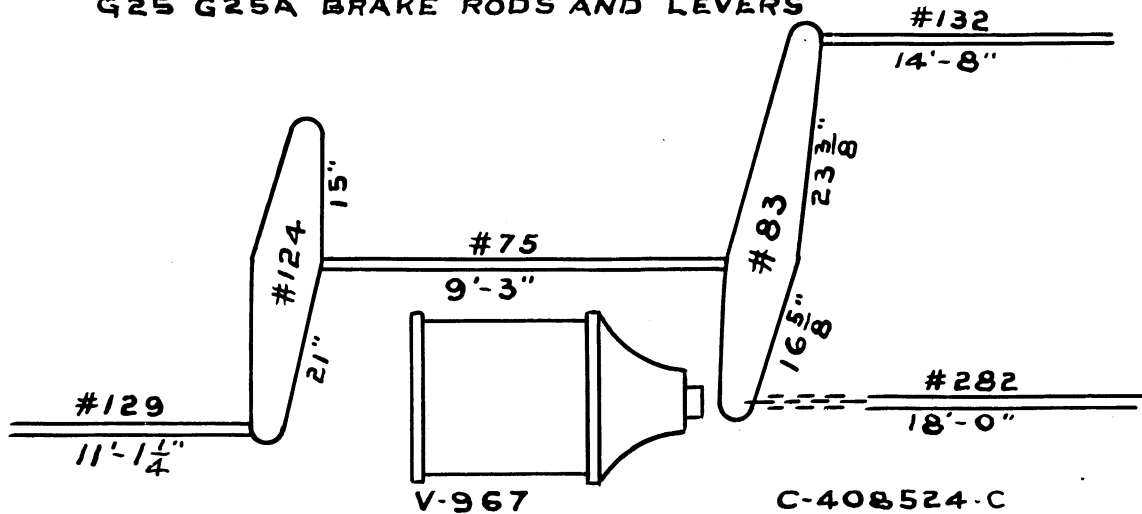
C 408101

# G 24 BRAKE RODS AND LEVERS

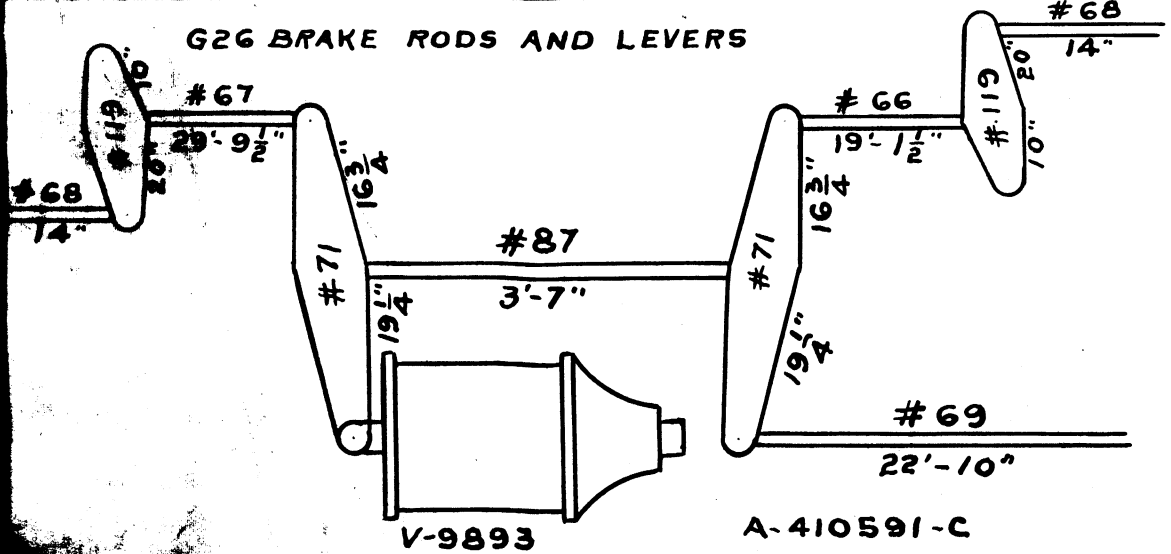


C-408220-F

# G25 G25A BRAKE RODS AND LEVERS



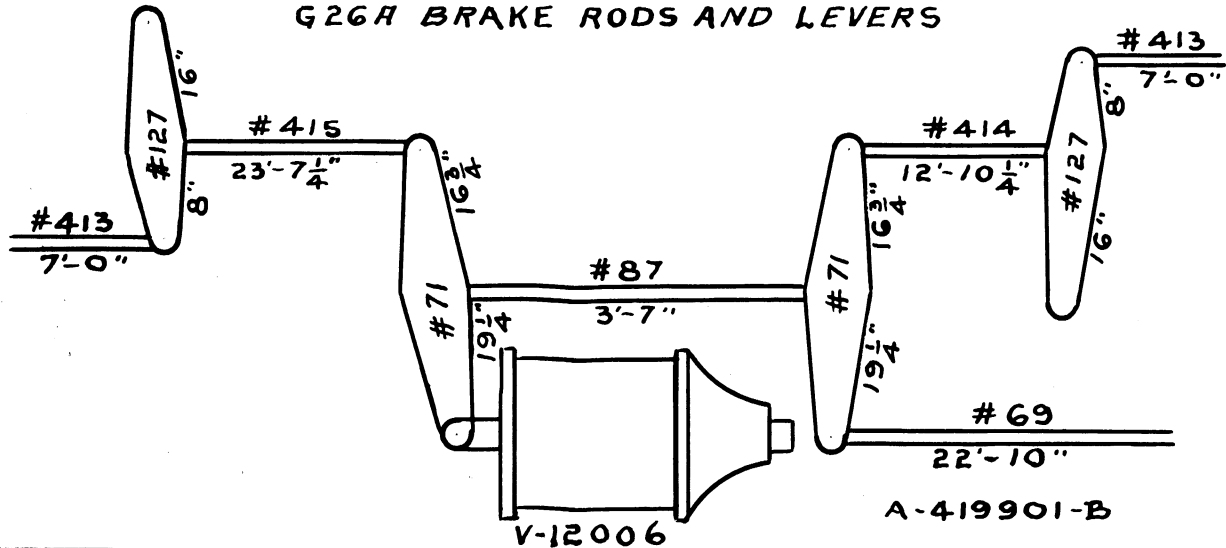
# G26 BRAKE RODS AND LEVERS



V-9893

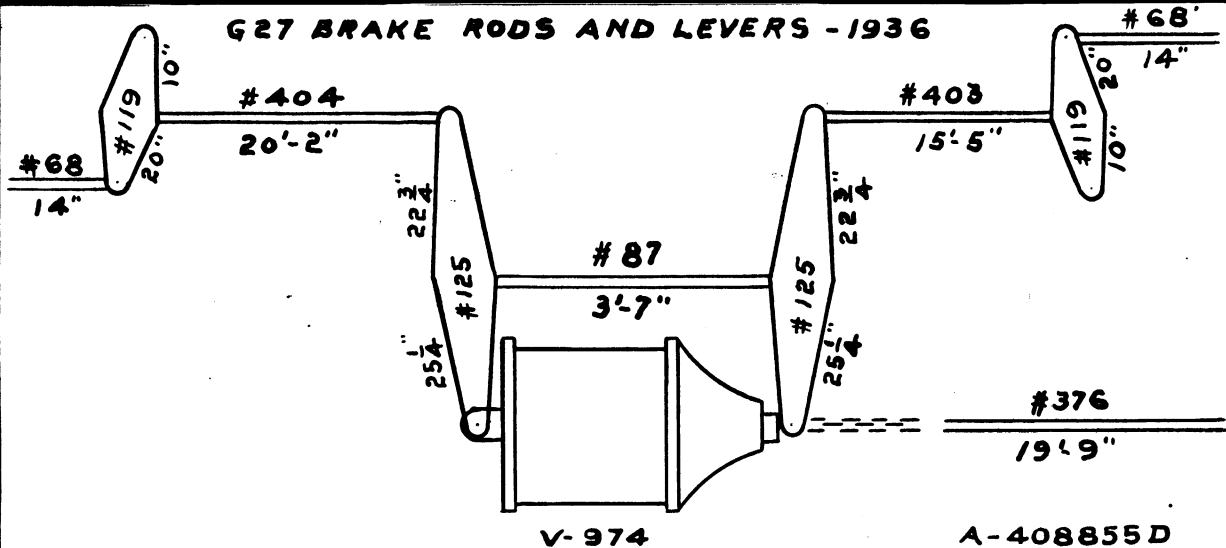
A-410591-C

# G26H BRAKE RODS AND LEVERS

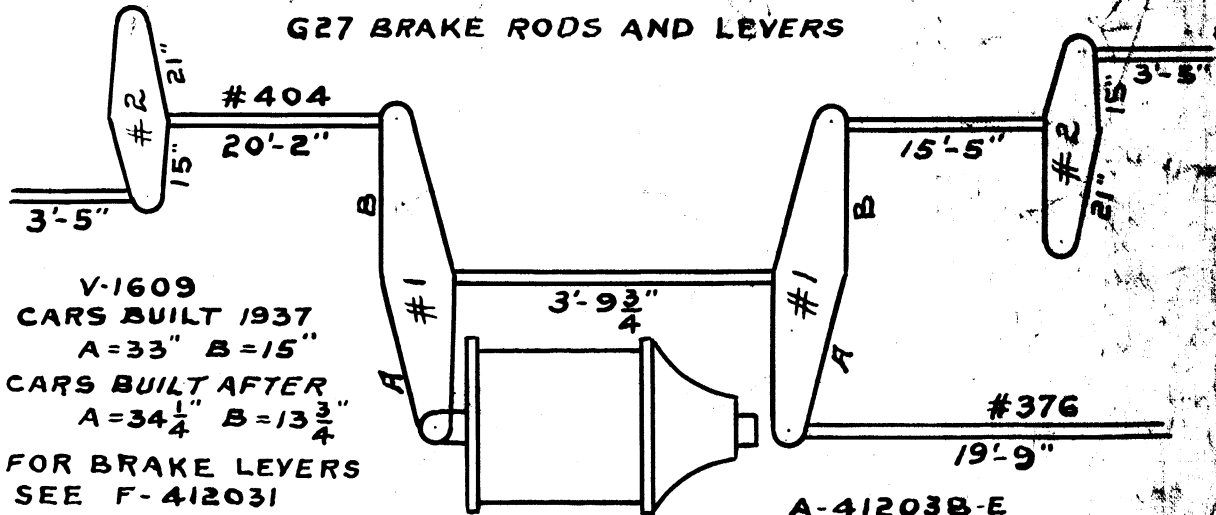




# G27 BRAKE RODS AND LEVERS - 1936



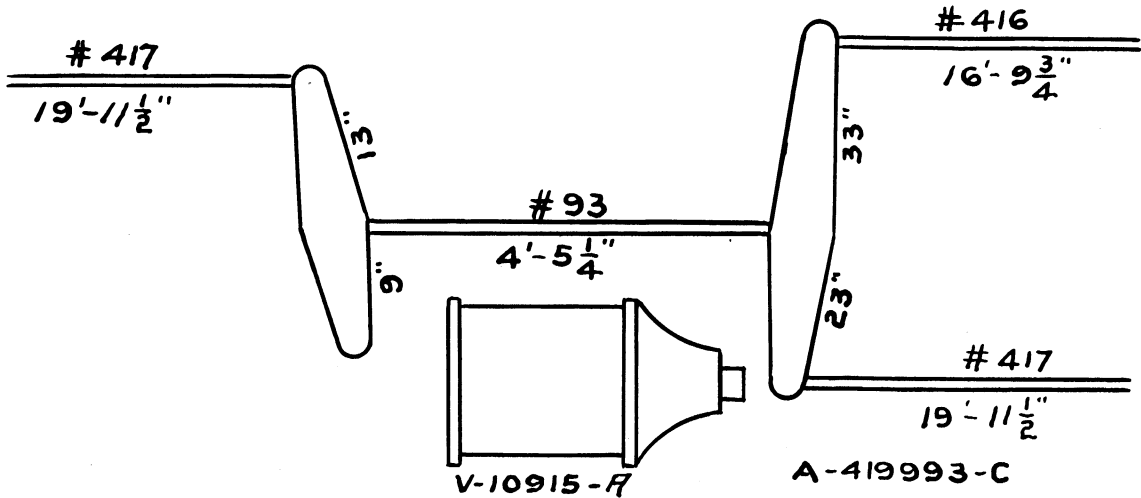
# G27 BRAKE RODS AND LEVERS



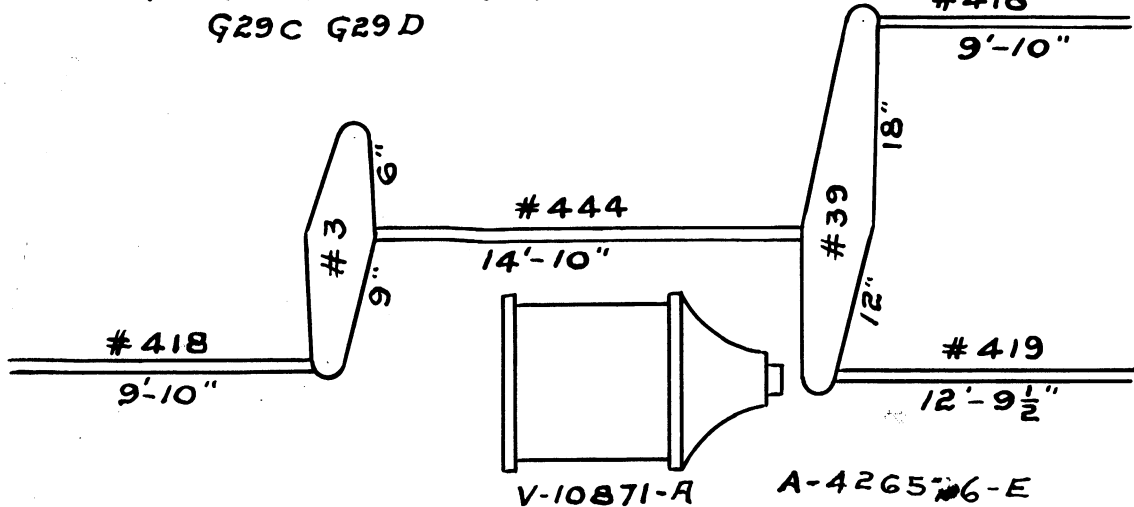
V-1609  
 CARS BUILT 1937  
 A=33" B=15"  
 CARS BUILT AFTER  
 A=34  $\frac{1}{4}$ " B=13  $\frac{3}{4}$ "  
 FOR BRAKE LEVERS  
 SEE F-412031  
 V-1654

A-412038-E

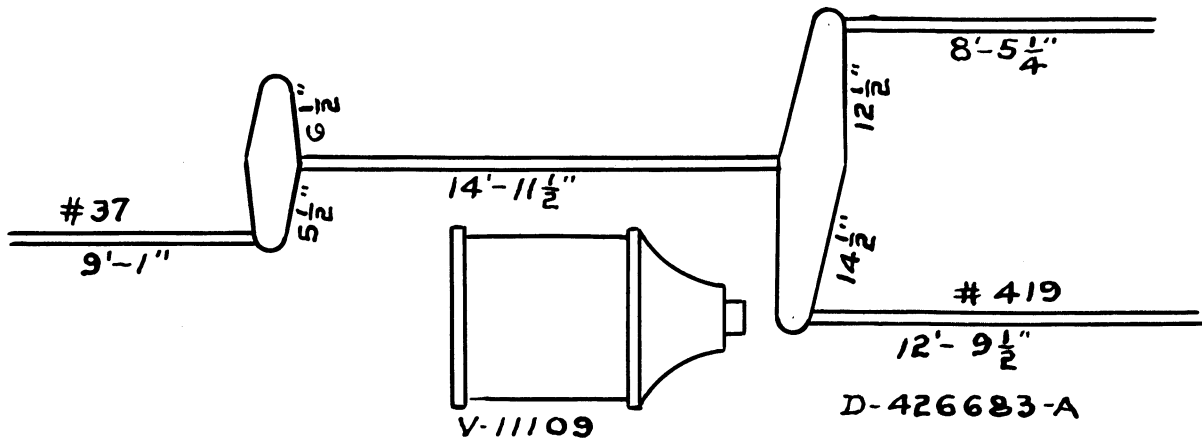
# G28 BRAKE RODS AND LEVERS



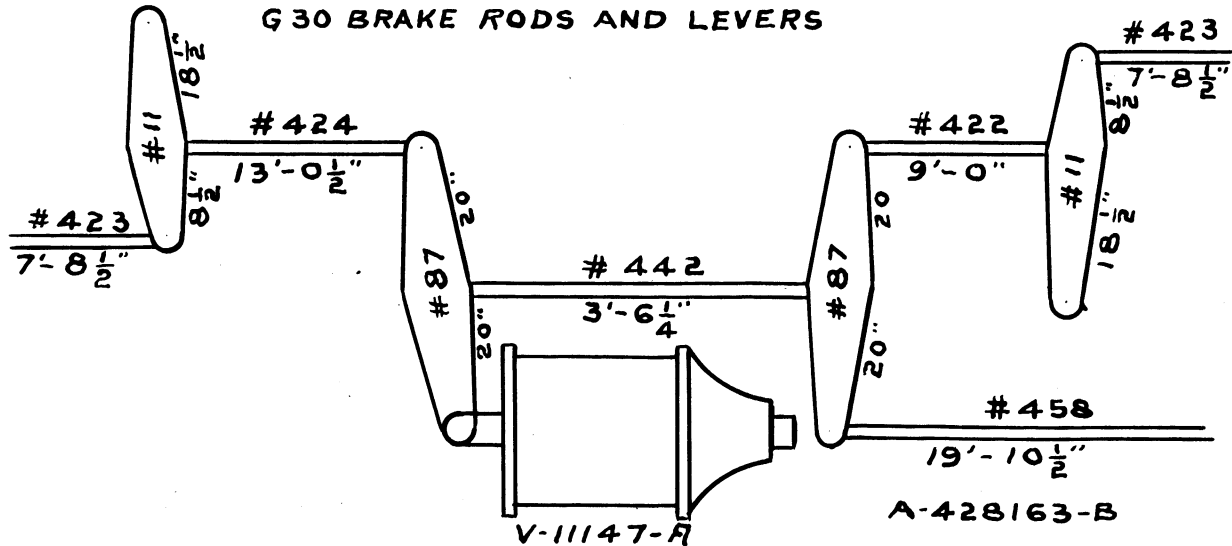
G29 G29A G29B BRAKE RODS AND LEVERS #418  
G29C G29D



G29B BRAKE RODS AND LEVERS  
WITH 2D-F23 TRUCKS

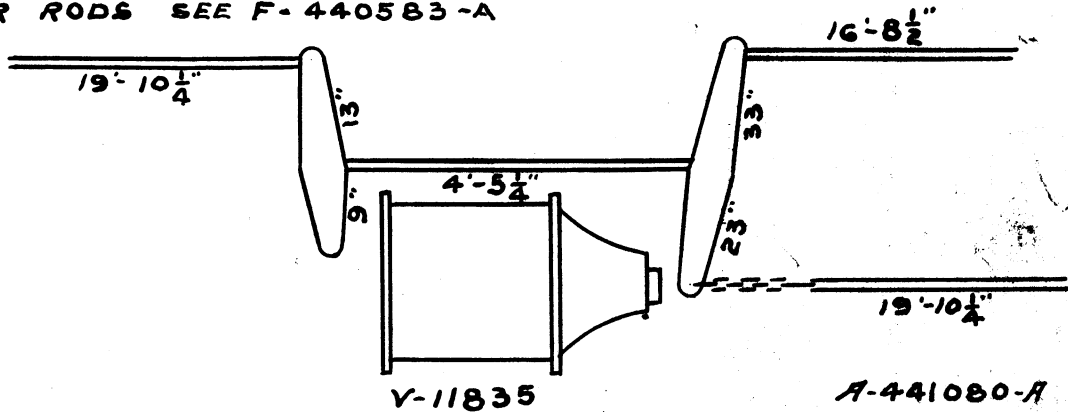


# G 30 BRAKE RODS AND LEVERS



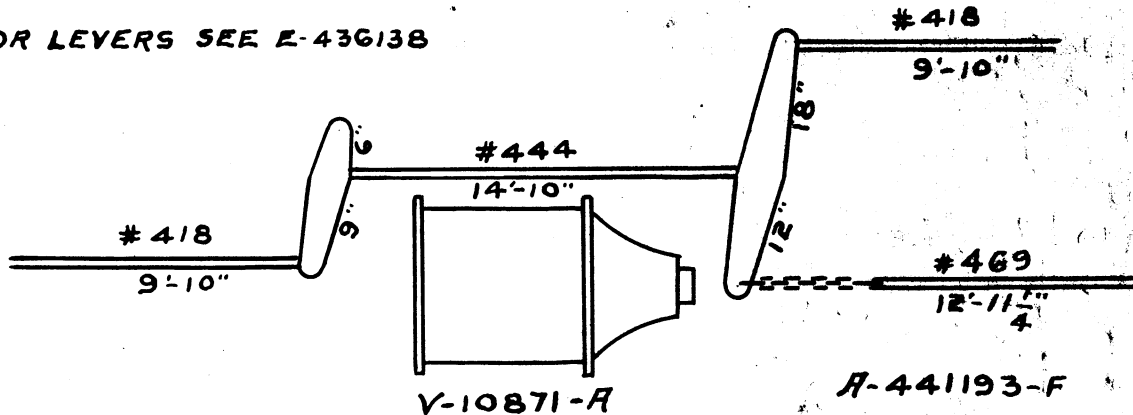
# G31 BRAKE RODS AND LEVERS

FOR LEVERS SEE E-440578-B  
FOR RODS SEE F-440583-A



# G32A-G32 BRAKE RODS AND LEVERS

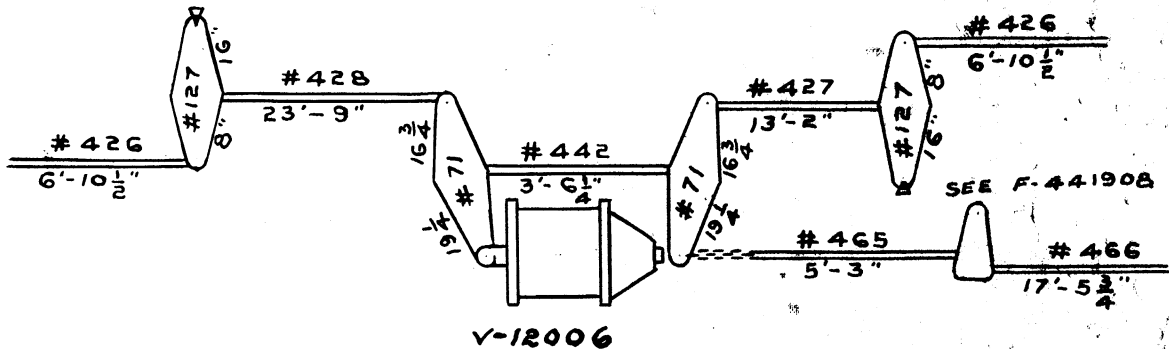
FOR LEVERS SEE E-436138



A-441193-F

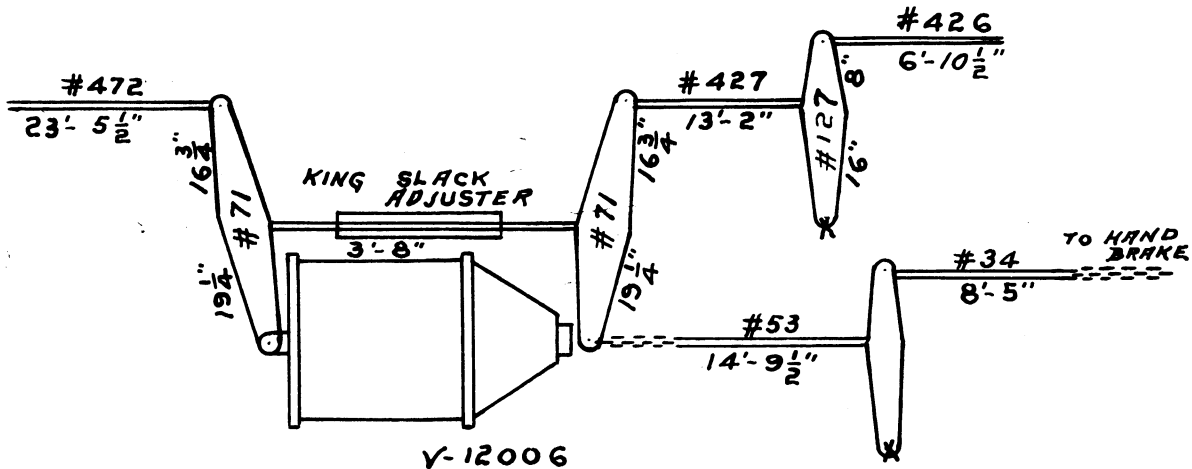


# G33 BRAKE RODS AND LEVERS



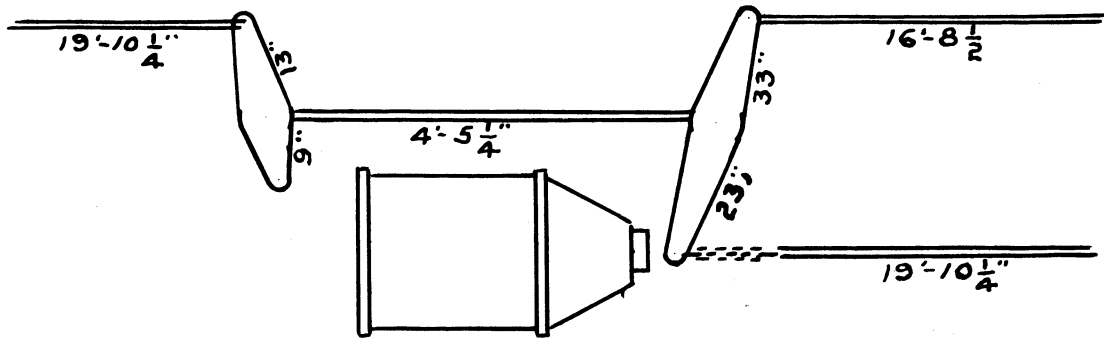
A-441900-B.

# G33A BRAKE RODS AND LEVERS



A-446673-C

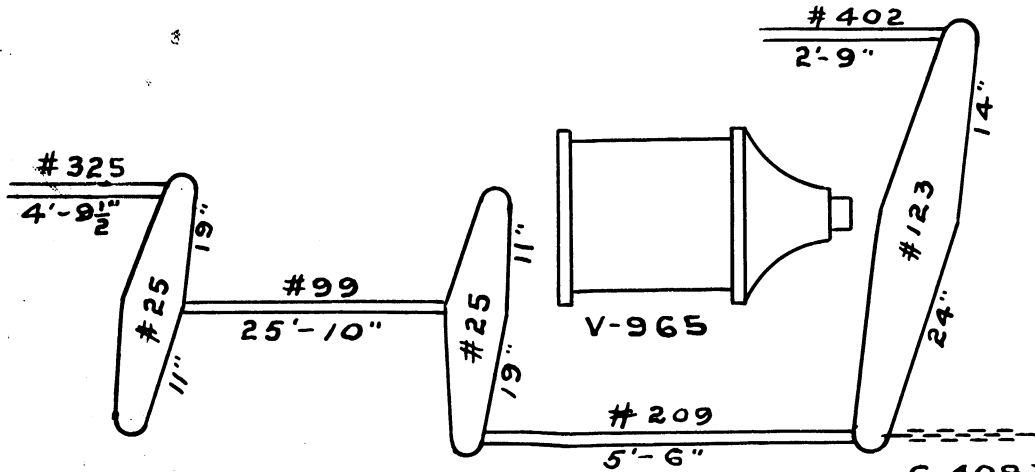
# G 35 BRAKE RODS AND LEVERS



FOR LEVERS SEE E-440578  
V-11835

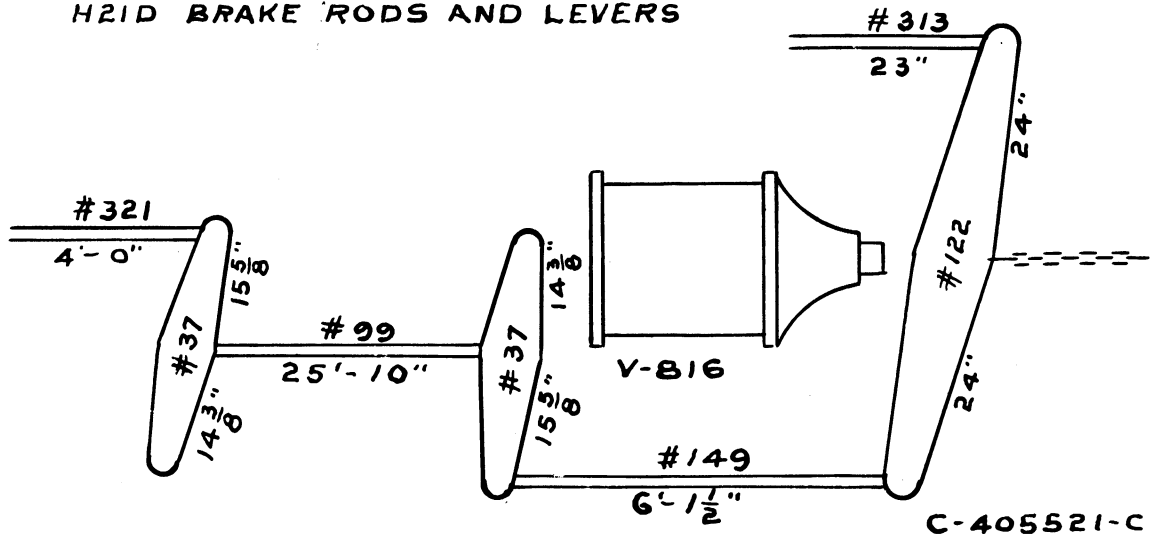
A-448348A

# H21B-H21A H22A BRAKE RODS AND LEVERS



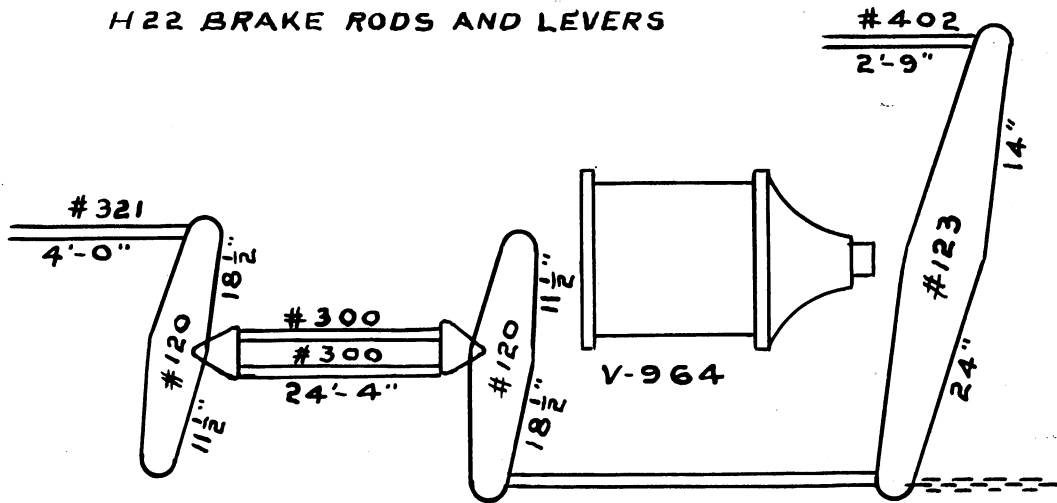
C-408309-1

# H21D BRAKE RODS AND LEVERS



C-405521-C

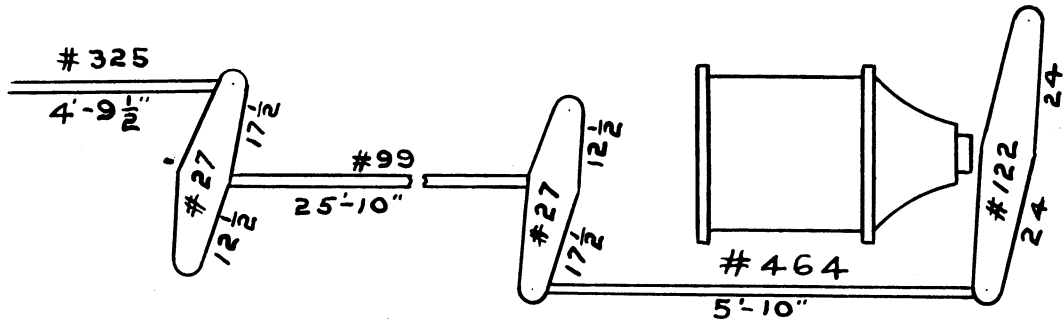
# H22 BRAKE RODS AND LEVERS



C-408309-G



H25A - H21E BRAKE RODS AND LEVERS  
H21A WITH GEARED HAND BRAKE

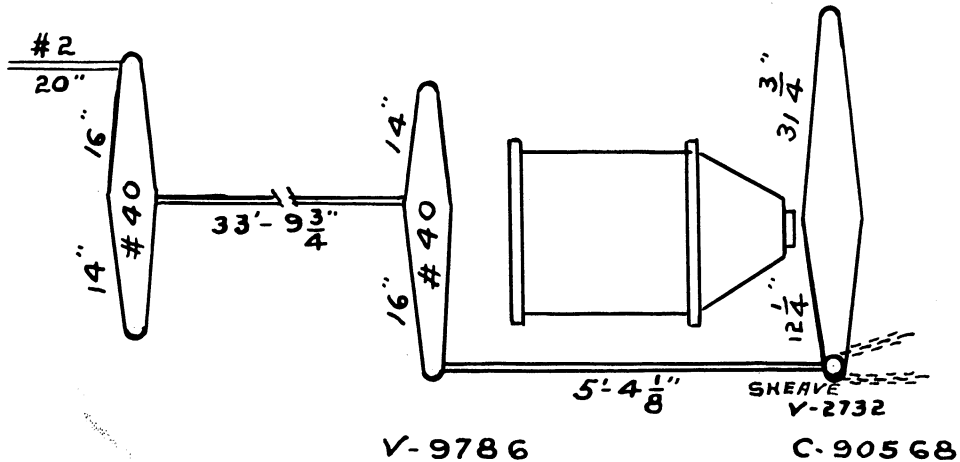


V-11478

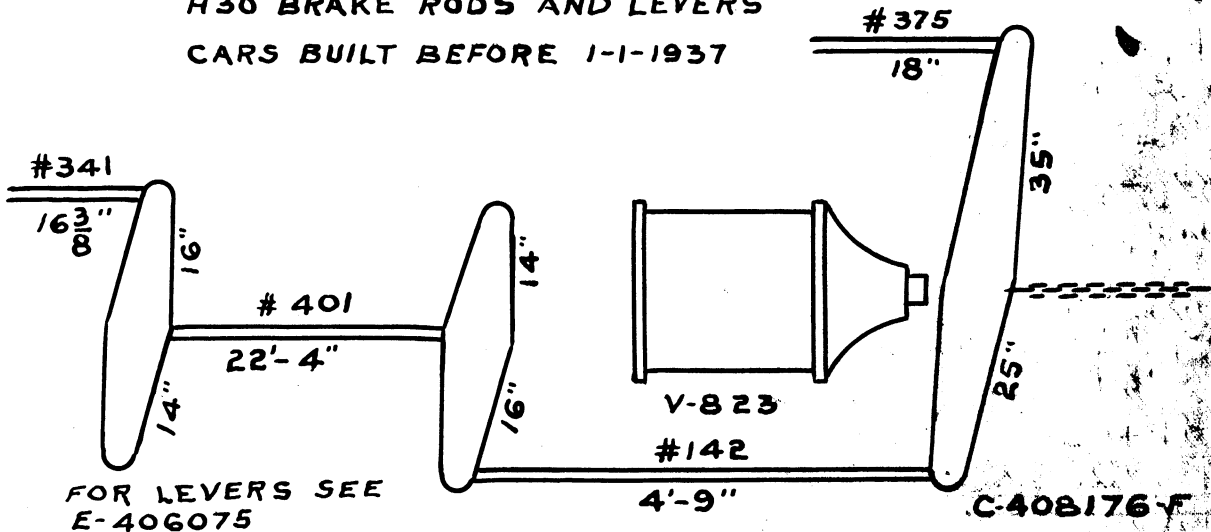
C-435972-G



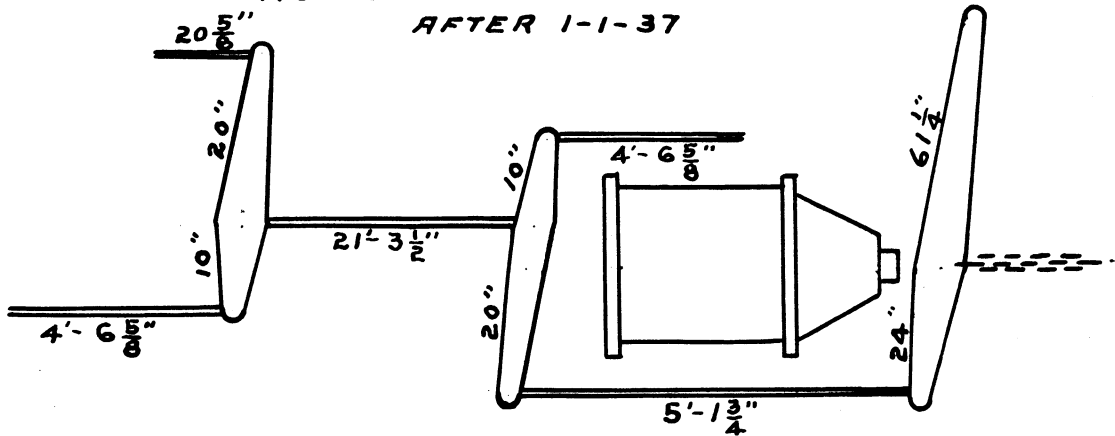
# H27 BRAKE RODS AND LEVERS



H30 BRAKE RODS AND LEVERS  
CARS BUILT BEFORE 1-1-1937



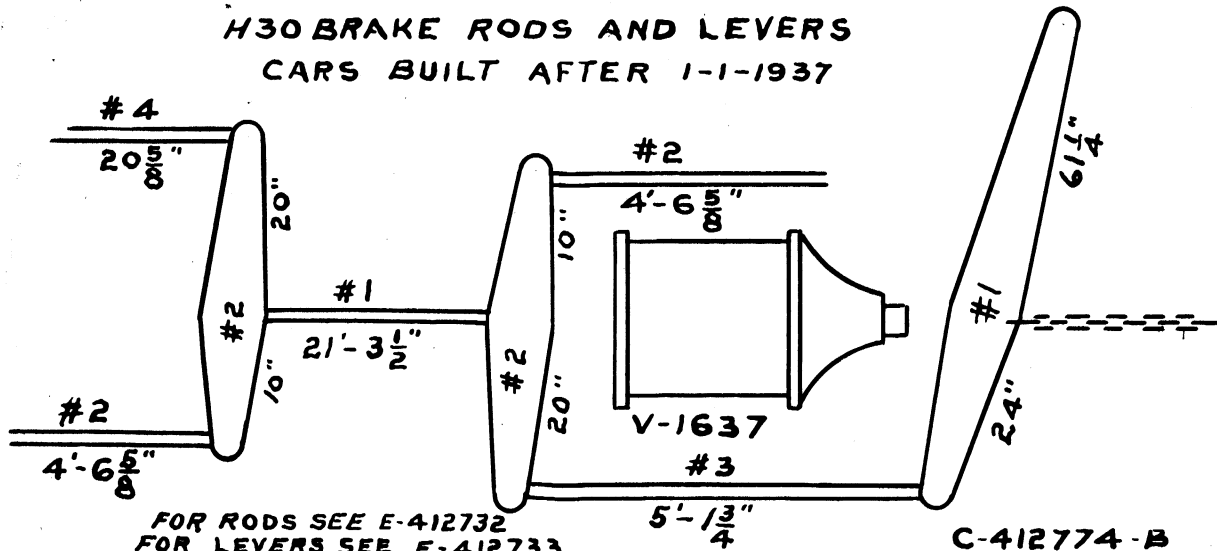
H30 BRAKE RODS AND LEVERS  
AFTER 1-1-37



V-1637

C-412774-F

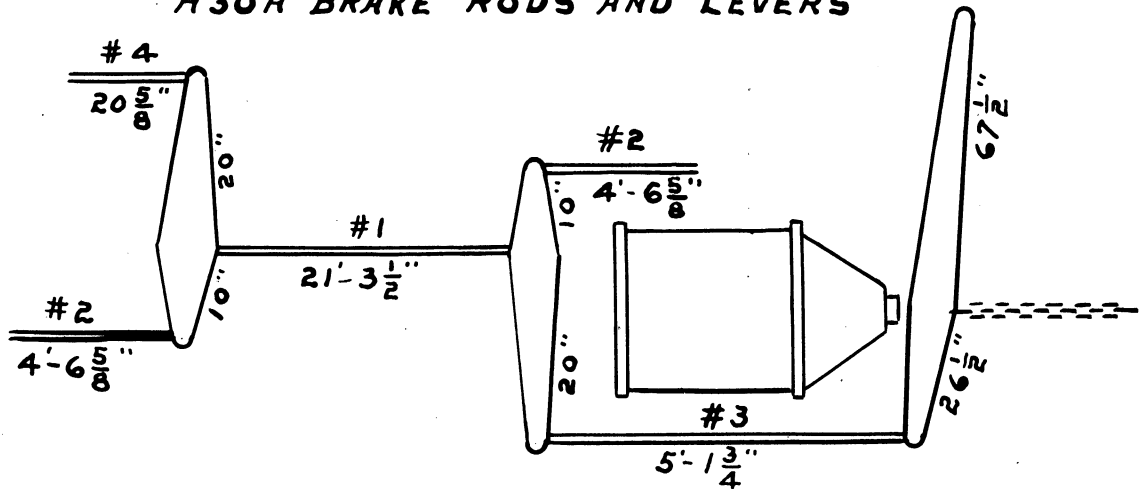
H30 BRAKE RODS AND LEVERS  
 CARS BUILT AFTER 1-1-1937



FOR RODS SEE E-412732  
 FOR LEVERS SEE E-412733

C-412774-B

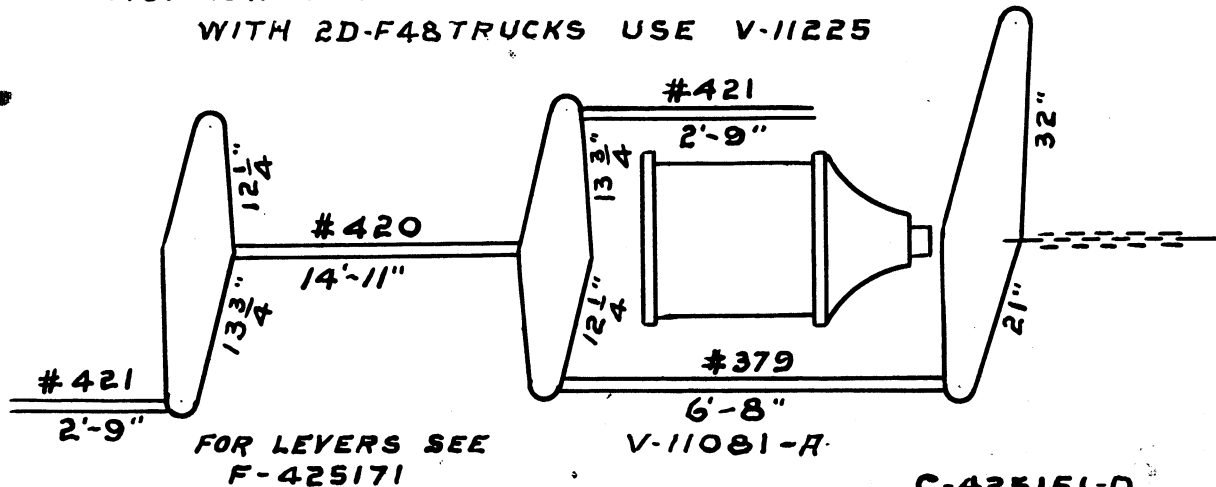
# H30R BRAKE RODS AND LEVERS



V-12051

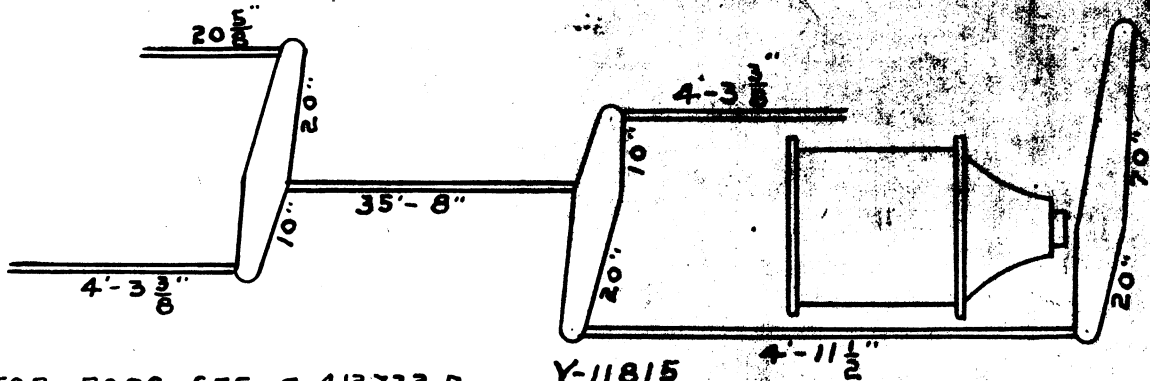
C-446498-B

H31 H31A H31B BRAKE RODS AND LEVERS  
WITH 2D-F48 TRUCKS USE V-11225



C-425151-D

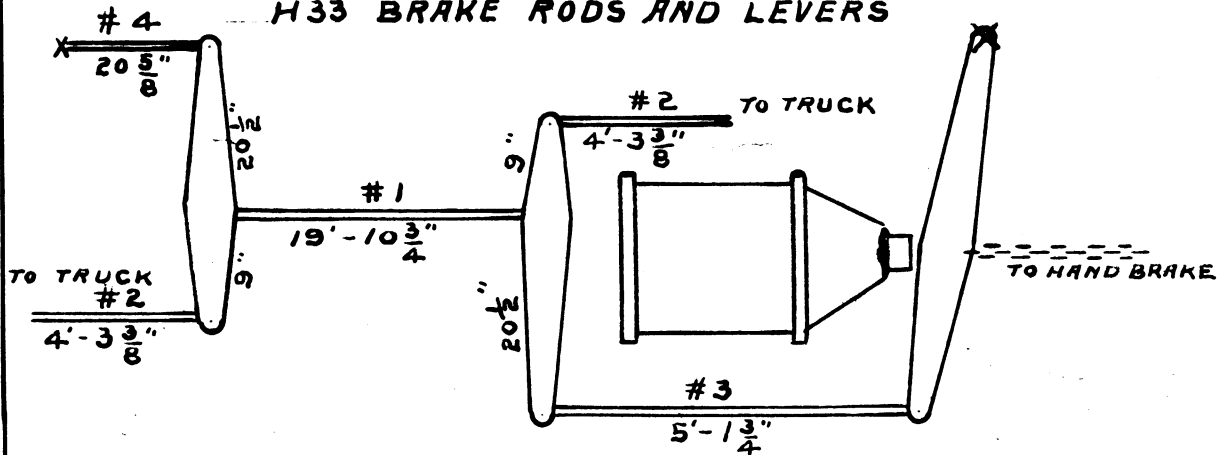
# H32 BRAKE RODS AND LEVERS



FOR RODS SEE E-412732-B  
FOR LEVERS SEE E-439834

A-439865

# H33 BRAKE RODS AND LEVERS

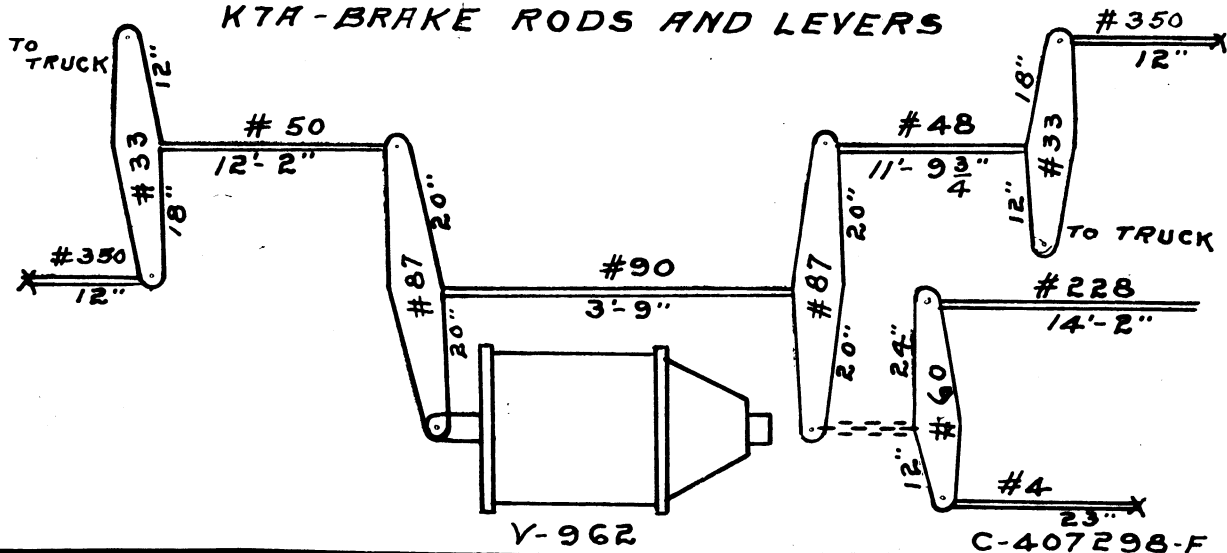


Y-12074

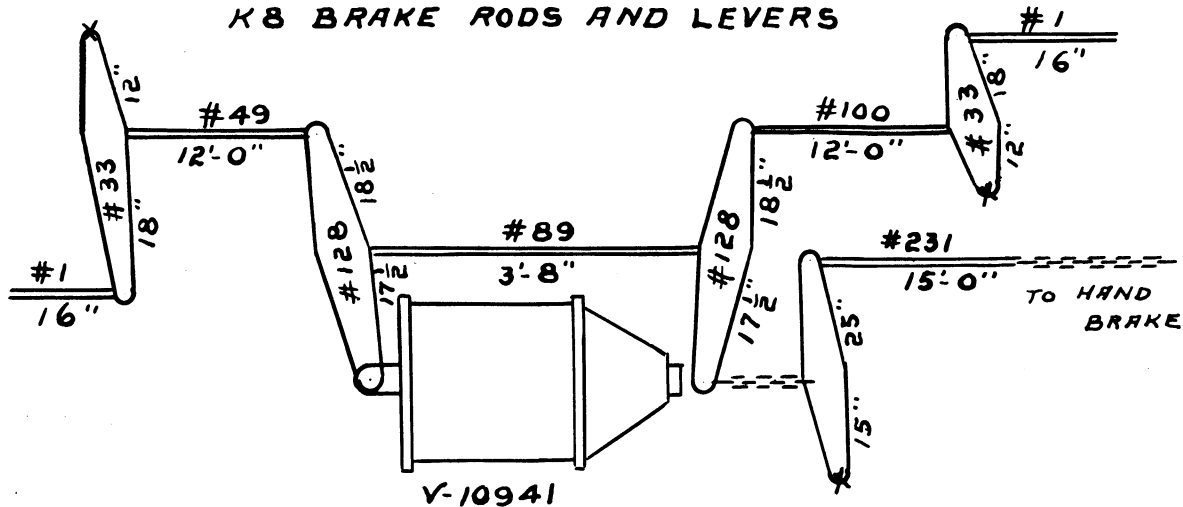
C-450111



# K7A - BRAKE RODS AND LEVERS



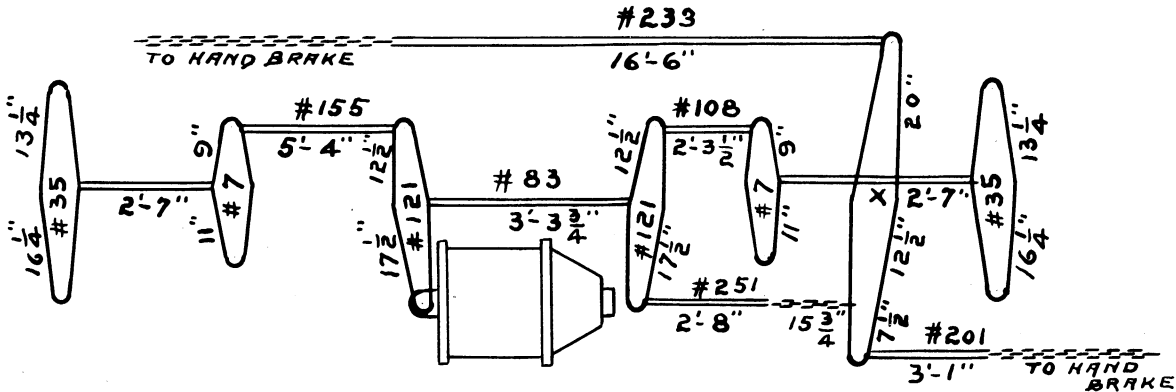
# K8 BRAKE RODS AND LEVERS



V-10941

C-423278-C

# ND-BRAKE RODS AND LEVERS

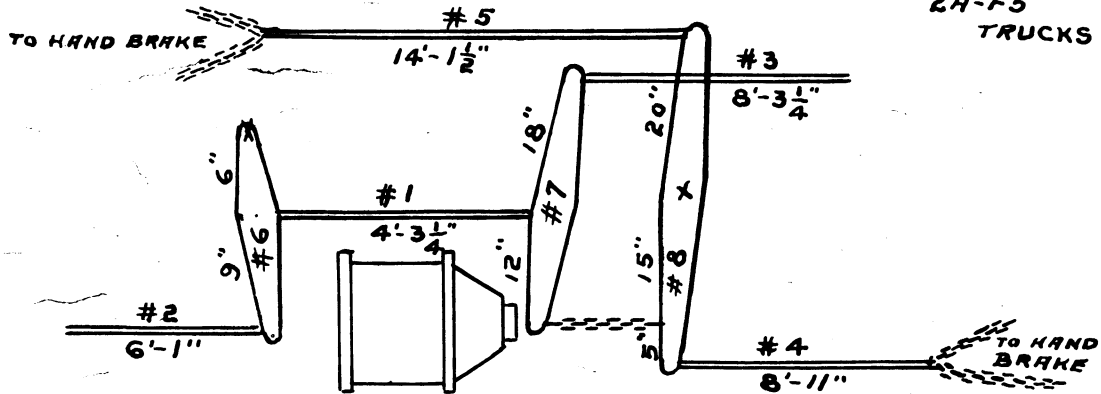


D-436333 - C

# NDA - BRAKE RODS AND LEVERS WITH 2A-F4

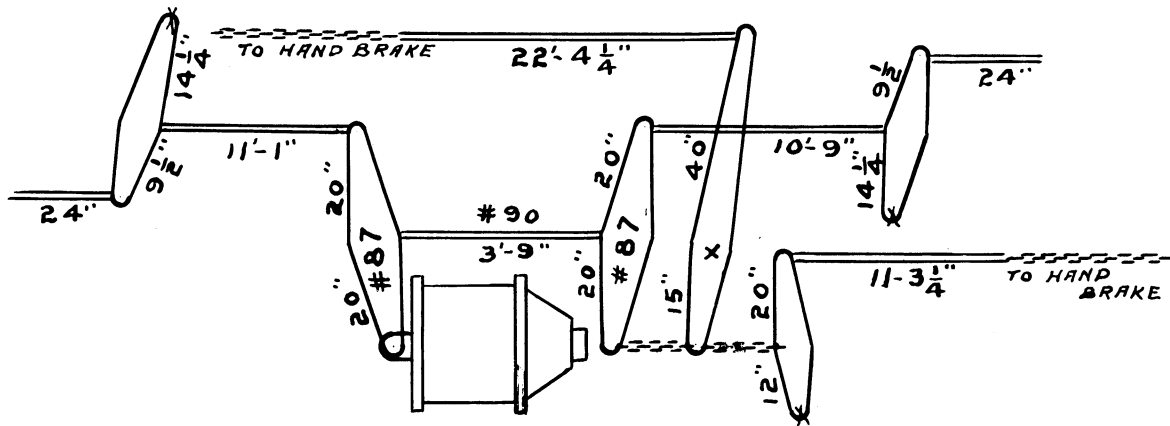
2A-F5

TRUCKS



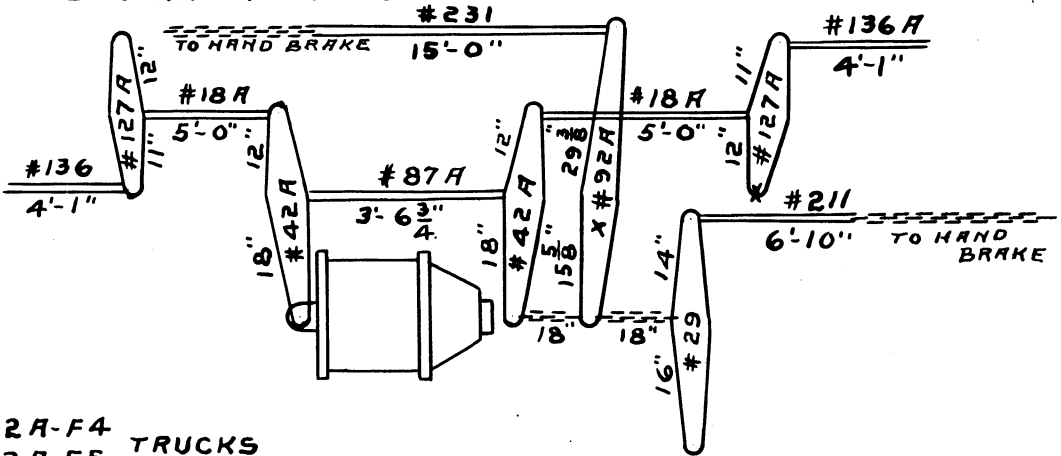
D-427375-B

# NX BRAKE RODS AND LEVERS



C-428634-D

# N5 BRAKE RODS AND LEVERS

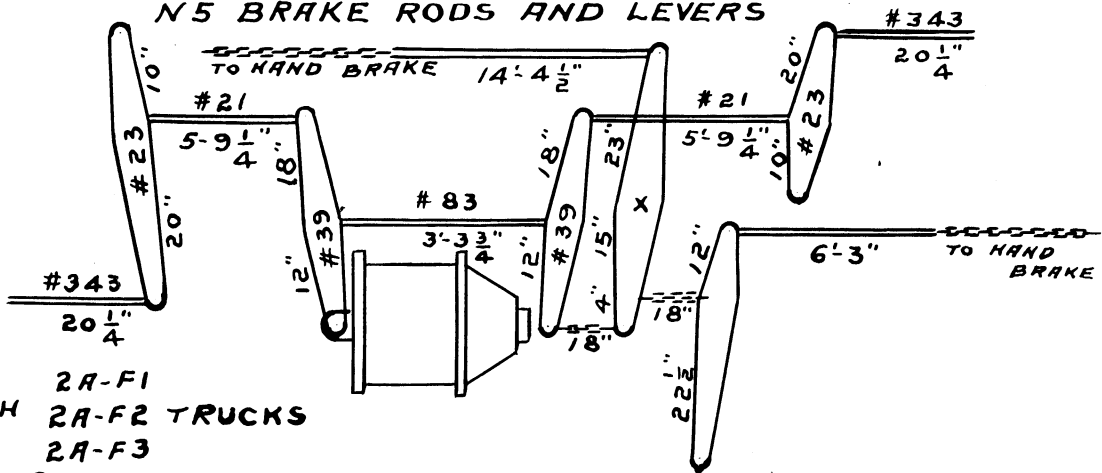


WITH 2A-F4  
2A-F5 TRUCKS

D-423488-B



# N5 BRAKE RODS AND LEVERS



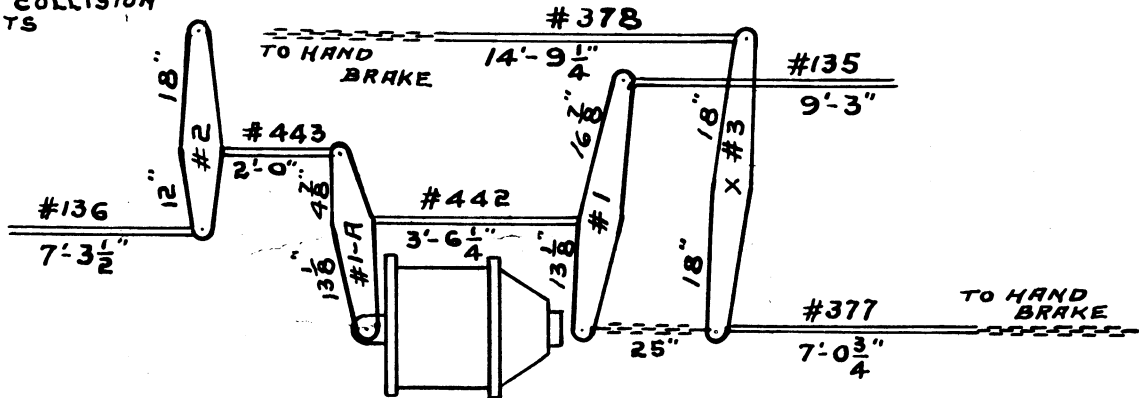
2A-F1  
 WITH 2A-F2 TRUCKS  
 2A-F3  
 COLLISION POSTS

D-427342-B



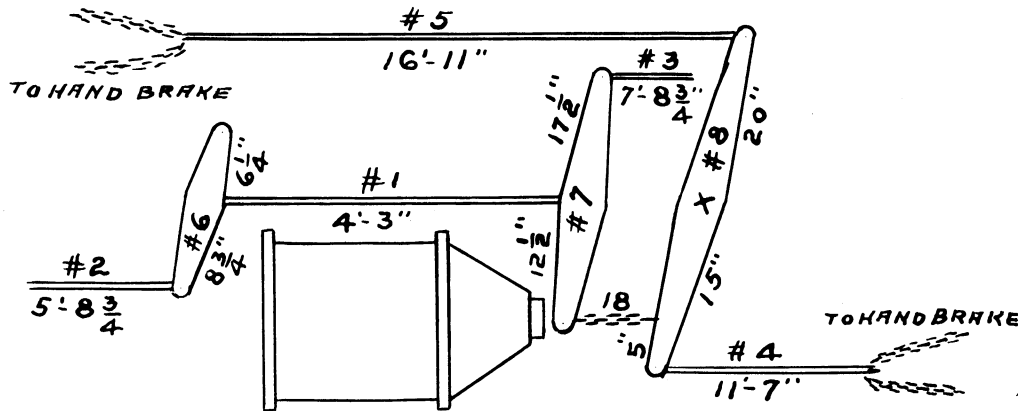
N5  
WITH COLLISION  
POSTS

# N5B-N5C BRAKE RODS AND LEVERS.



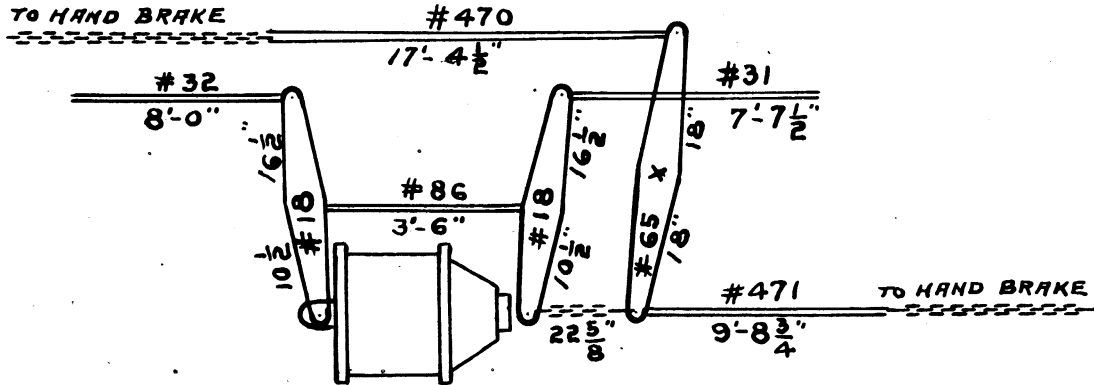
C-423445-F

# N6A N6B BRAKE RODS AND LEVERS



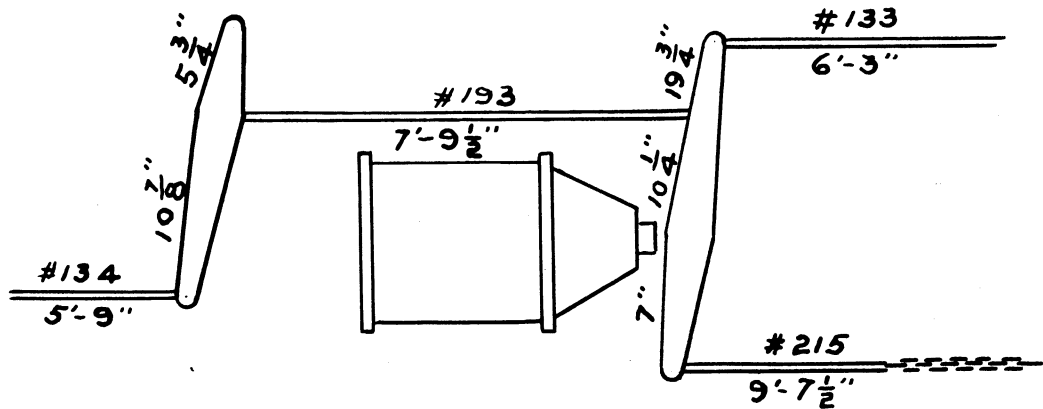
D-423890-E

# N8 BRAKE RODS AND LEVERS



A-444443-C

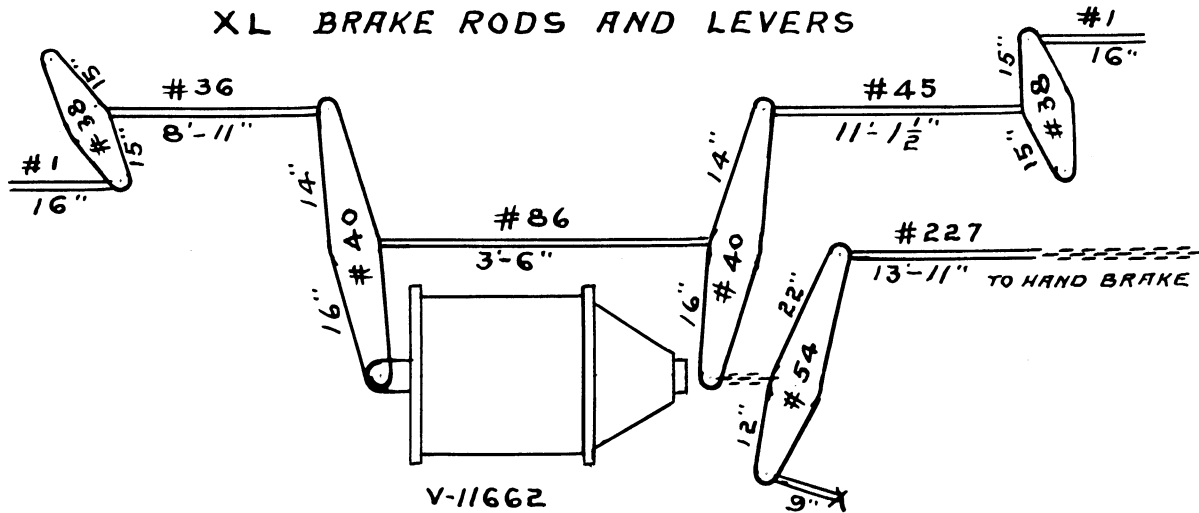
# TM10 BRAKE RODS AND LEVERS



V-

C-90117-B.

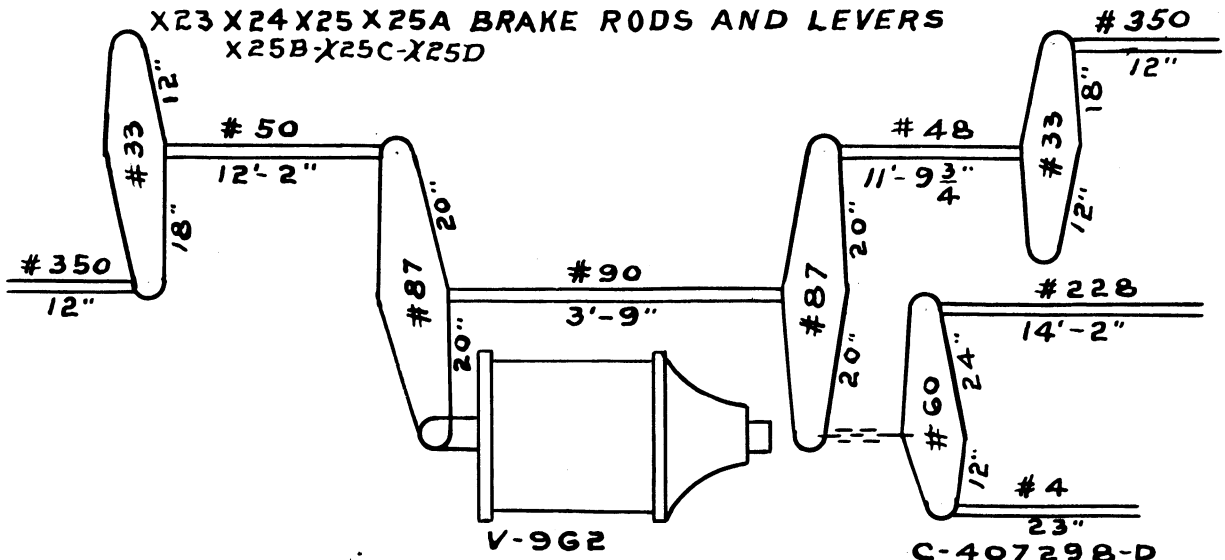
# XL BRAKE RODS AND LEVERS



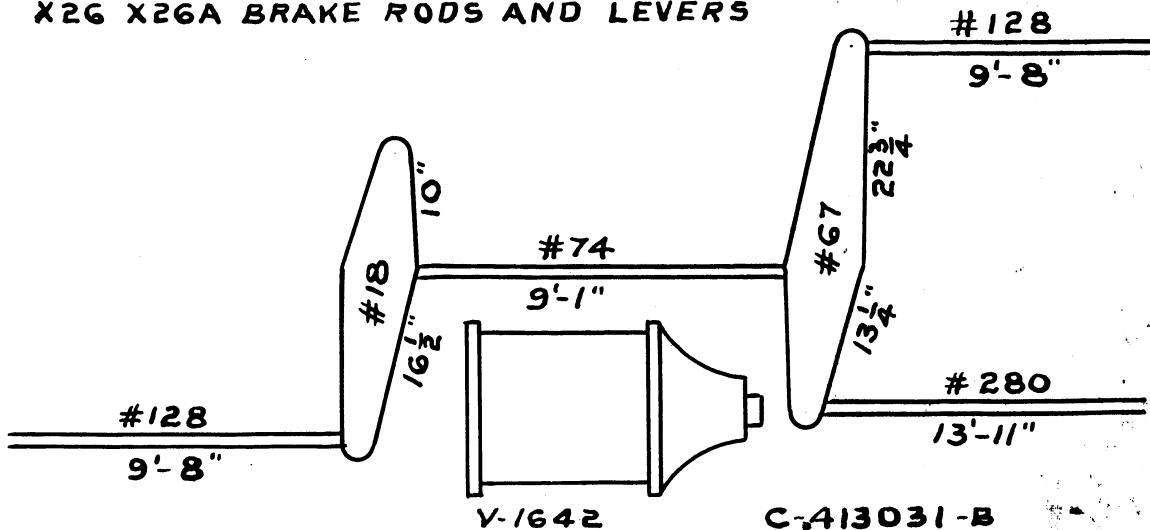
V-11662

C-437020-B

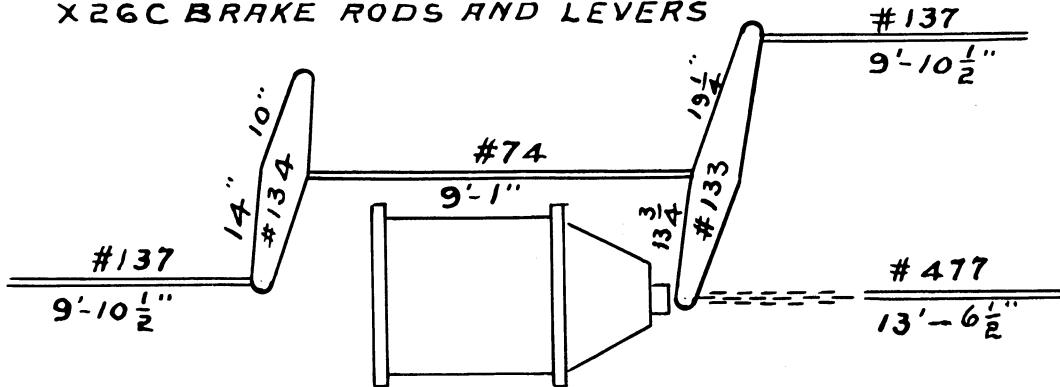
# X23 X24 X25 X25A BRAKE RODS AND LEVERS X25B-X25C-X25D



# X26 X26A BRAKE RODS AND LEVERS



# X26C BRAKE RODS AND LEVERS



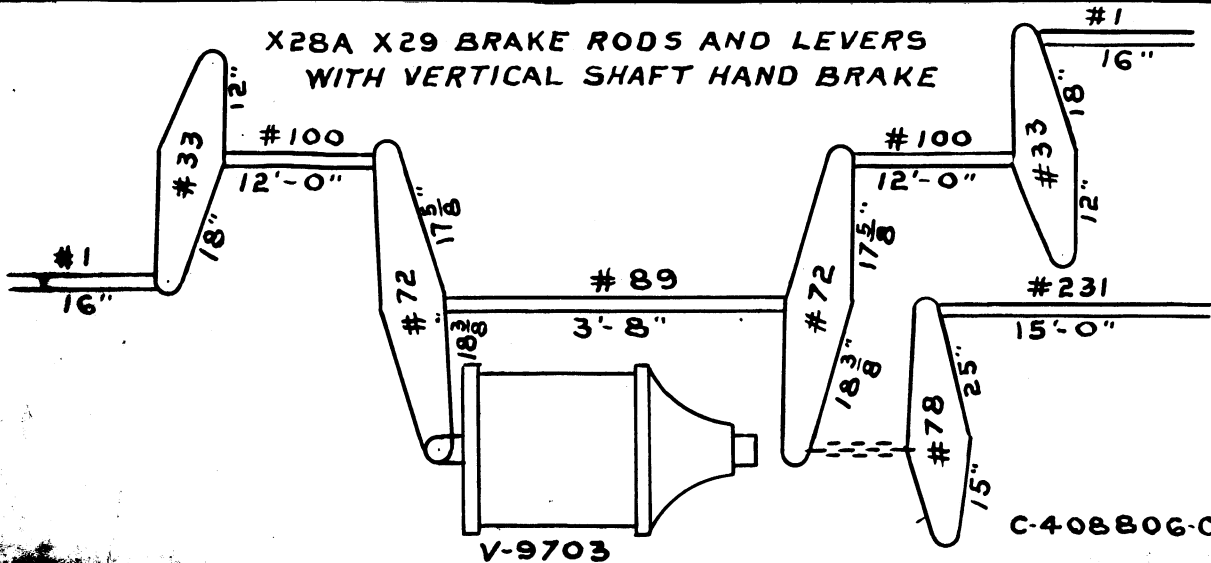
WITH 2D-F19A & 2D-F19C  
TRUCKS USE V-11807-A

V-11263

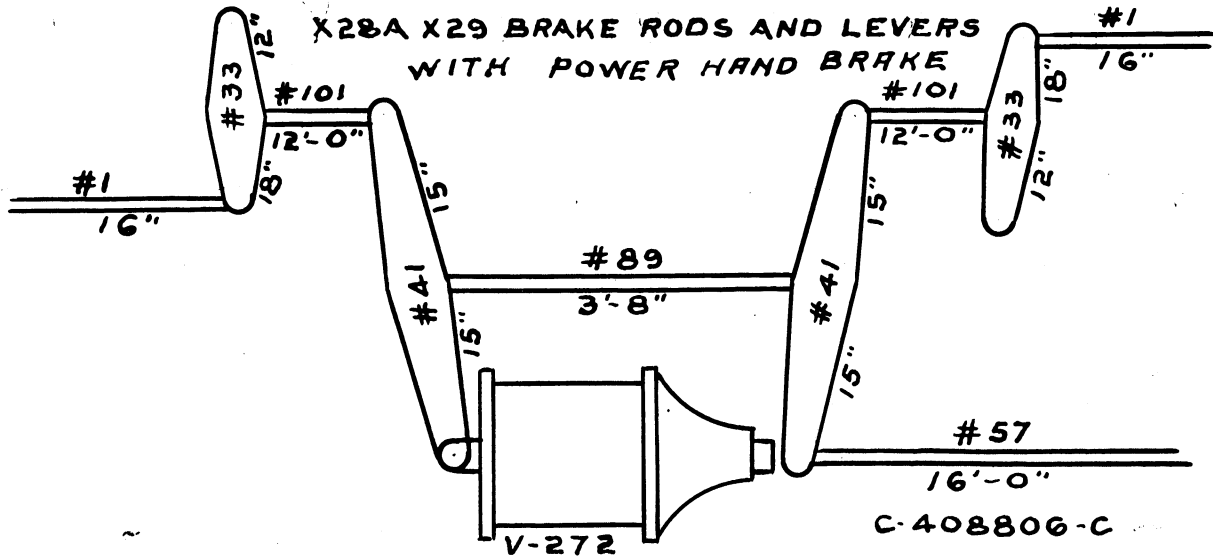
C-432753-D

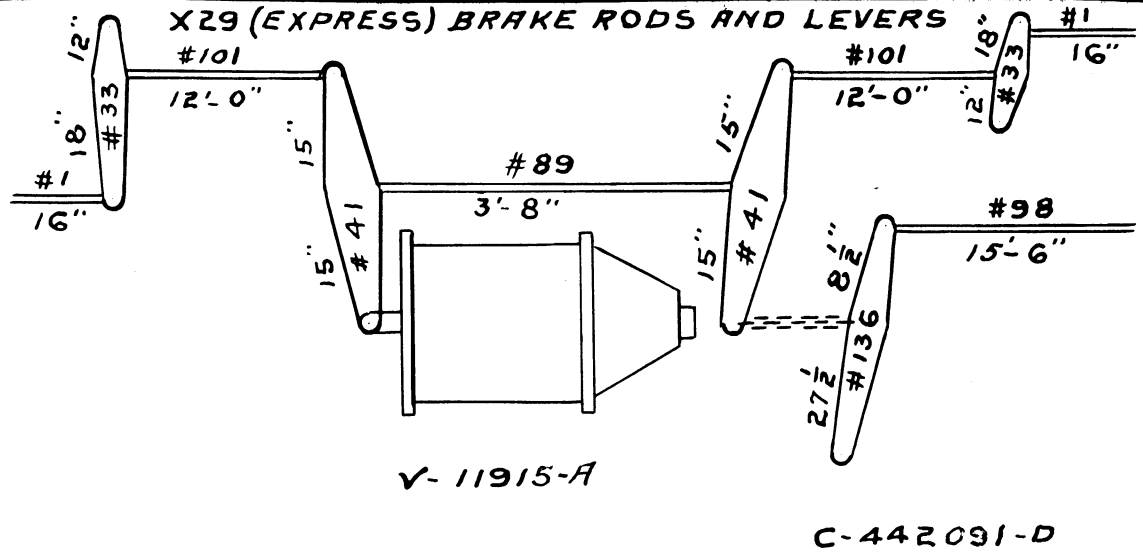


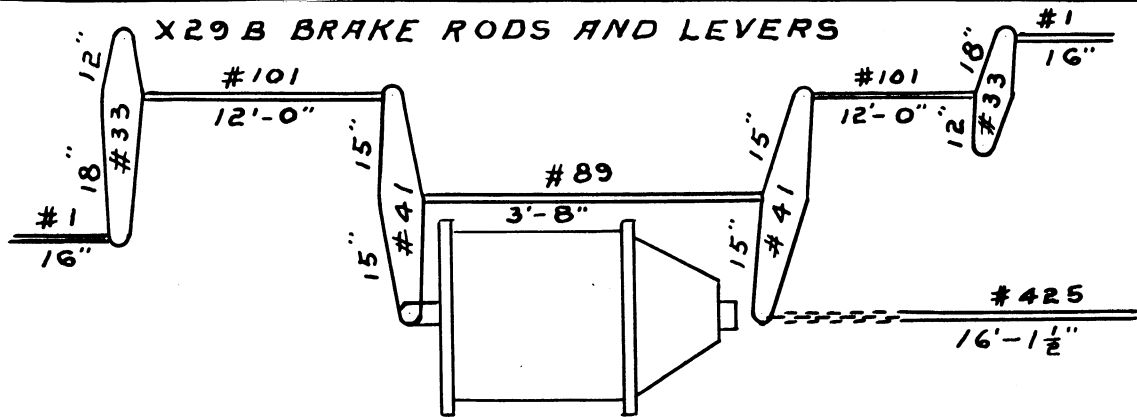
# X28A X29 BRAKE RODS AND LEVERS WITH VERTICAL SHAFT HAND BRAKE



C-408806-C





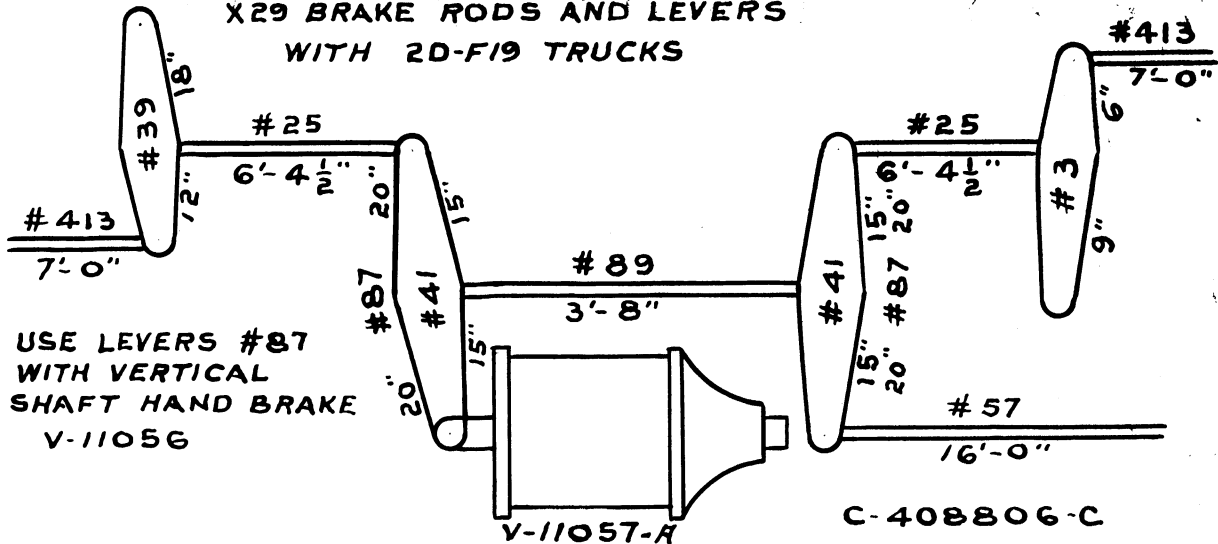


X29B BRAKE RODS AND LEVERS

V-11057-A

C-439939

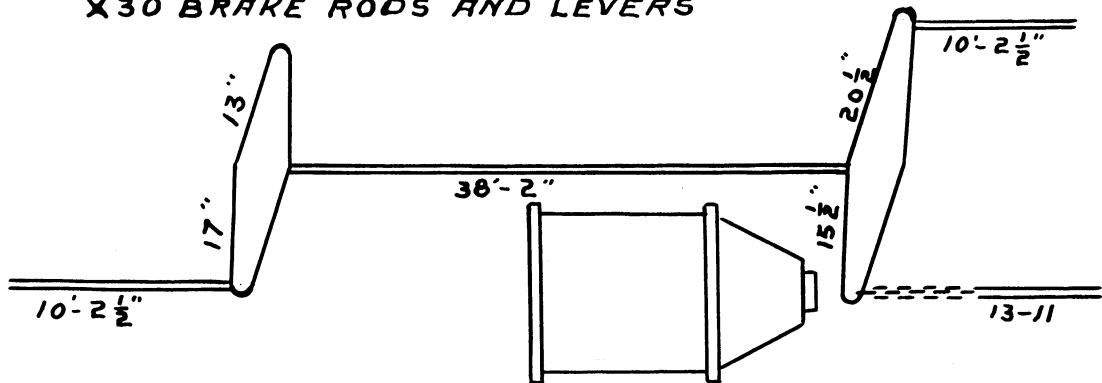
X29 BRAKE RODS AND LEVERS  
WITH 2D-F19 TRUCKS



USE LEVERS #87  
WITH VERTICAL  
SHAFT HAND BRAKE  
V-11056

C-408806-C

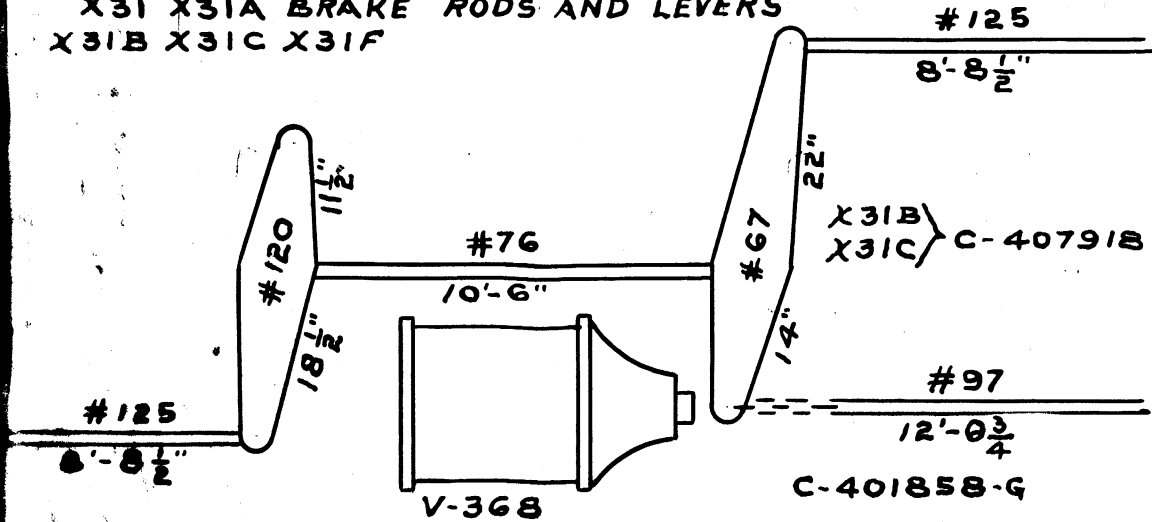
# X30 BRAKE RODS AND LEVERS



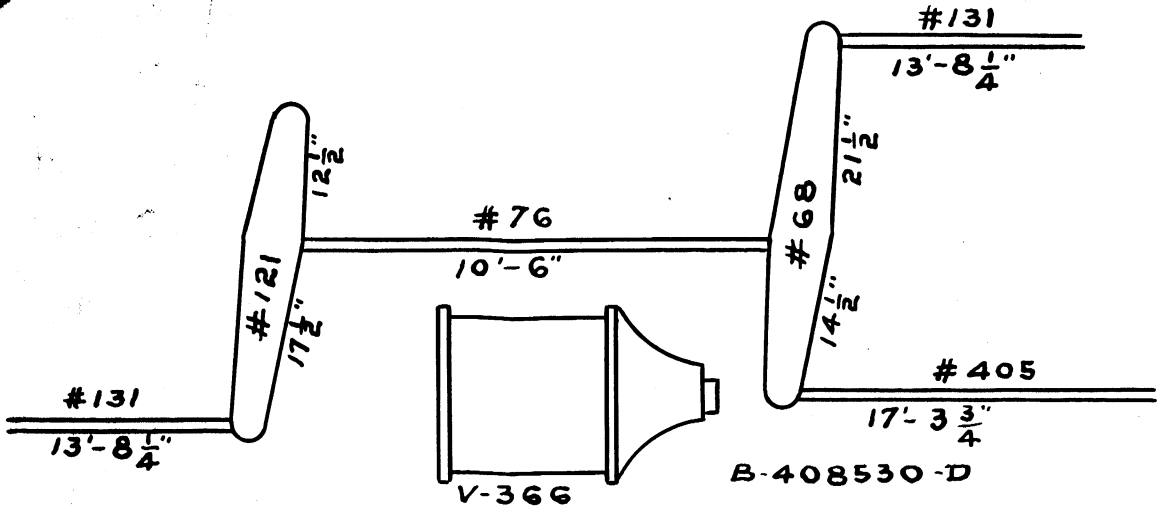
V-347

B-436252-B

X31 X31A BRAKE RODS AND LEVERS  
X31B X31C X31F

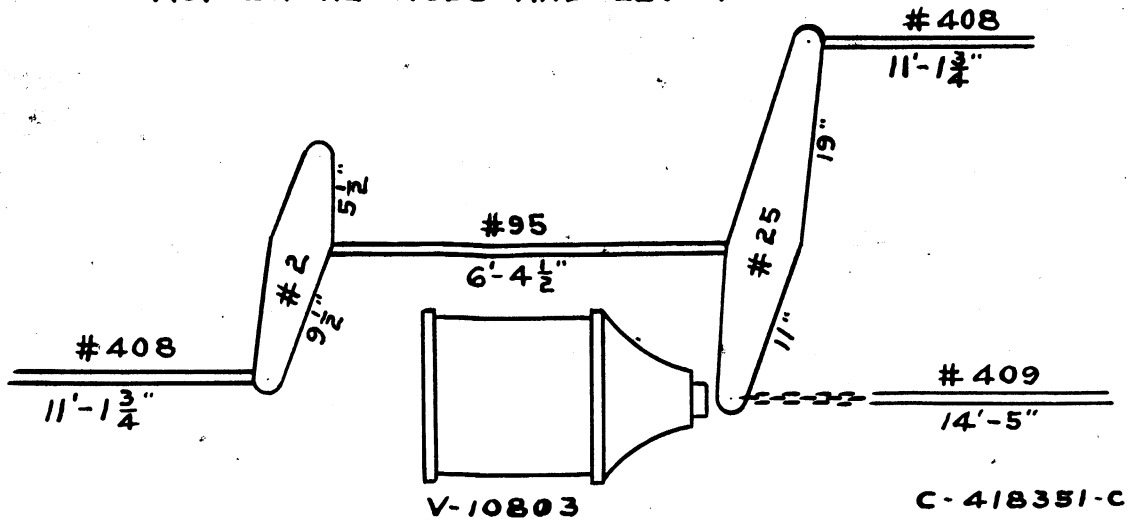


X B2 X32A X32B X33 X33A BRAKE RODS AND LEVERS





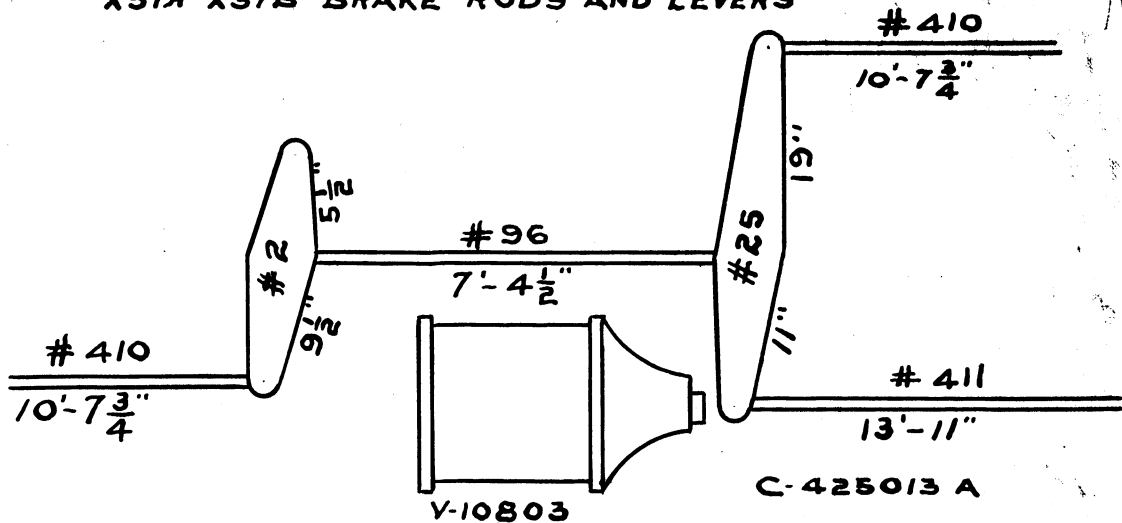
# X37 BRAKE RODS AND LEVERS



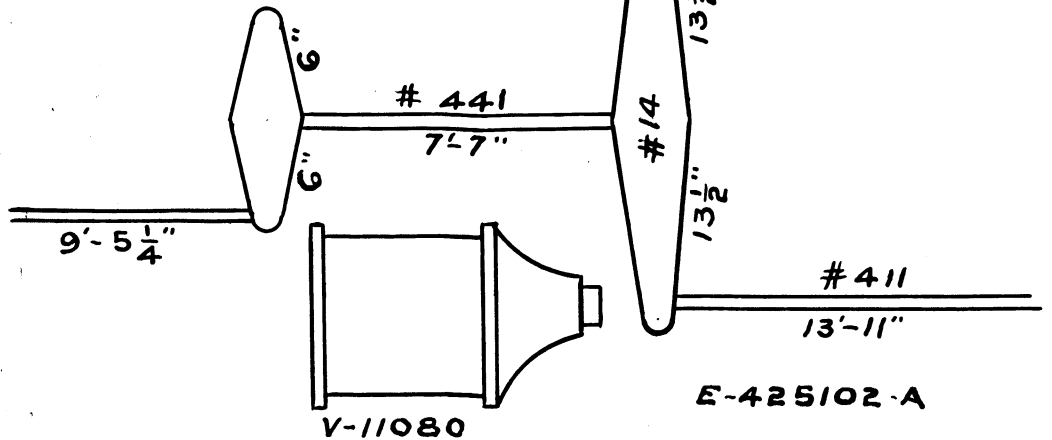
V-10803

C-418351-C

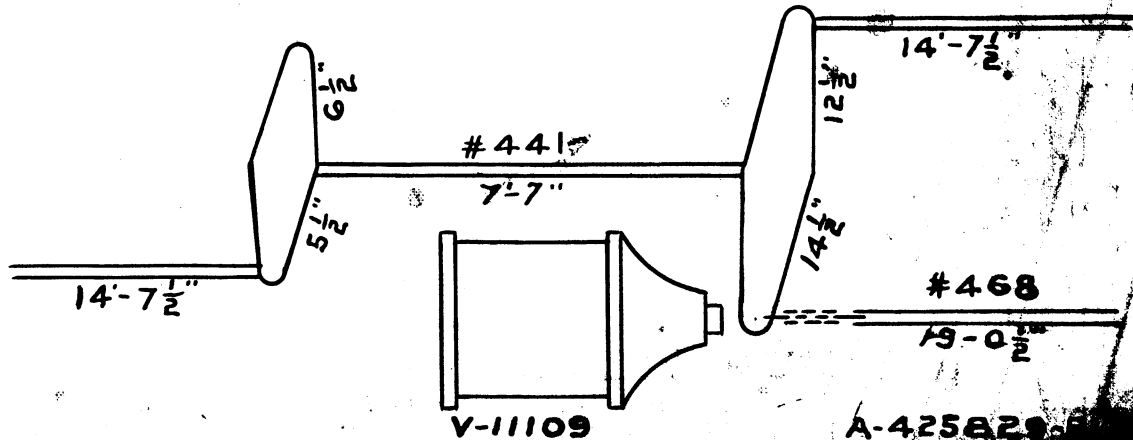
# X37A X37B BRAKE RODS AND LEVERS



X37B BRAKE RODS AND LEVERS  
WITH 2D-F23 TRUCKS



X38 X38A BRAKE RODS AND LEVERS  
WITH 2D-F23 TRUCKS

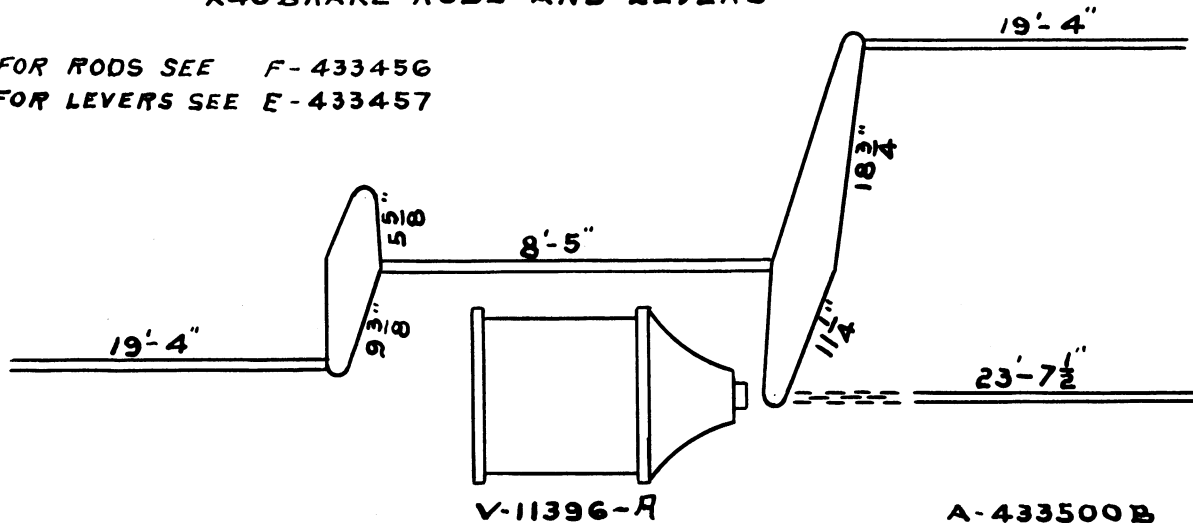


A-425829-5

# X40 BRAKE RODS AND LEVERS

FOR RODS SEE F-433456

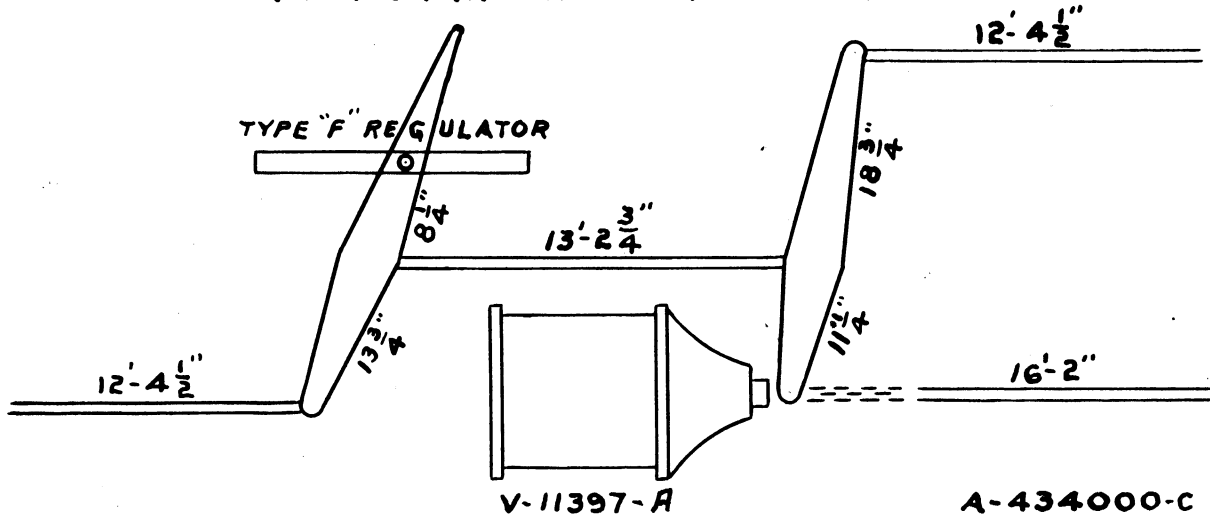
FOR LEVERS SEE E-433457



V-11396-A

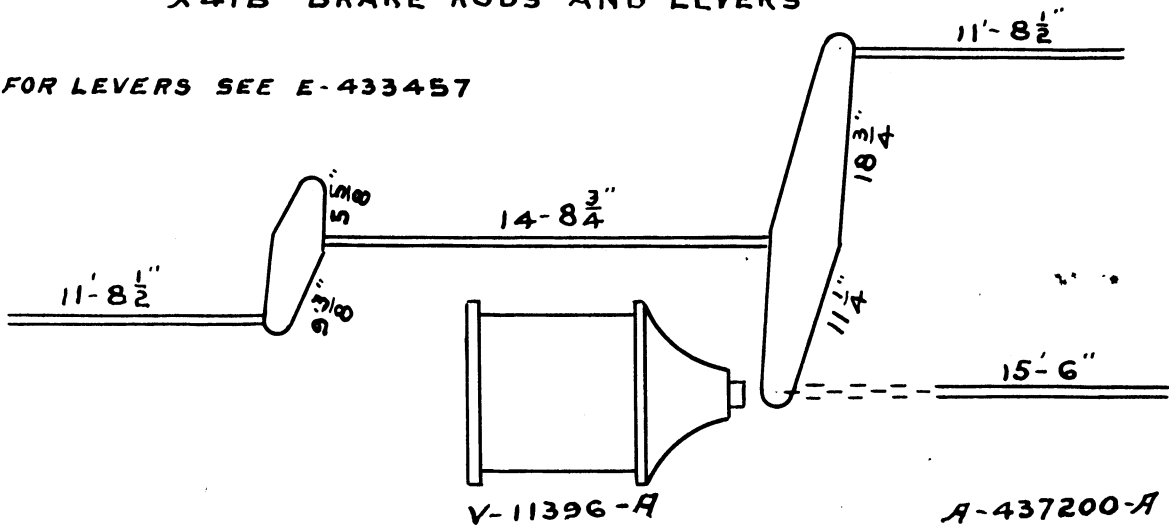
A-433500B

# X41A BRAKE RODS AND LEVERS



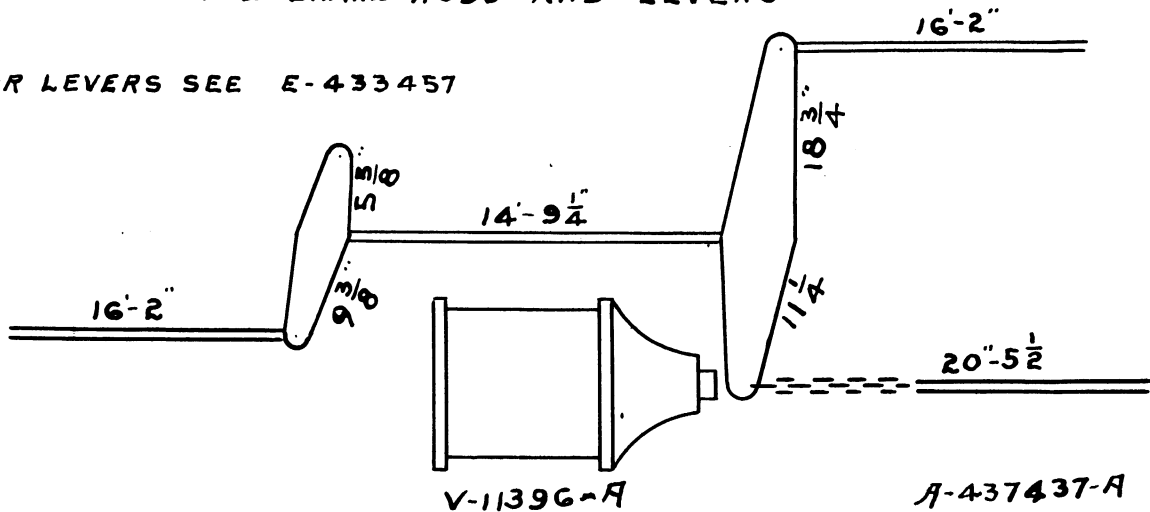
# X41B BRAKE RODS AND LEVERS

FOR LEVERS SEE E-433457



# X 40B BRAKE RODS AND LEVERS

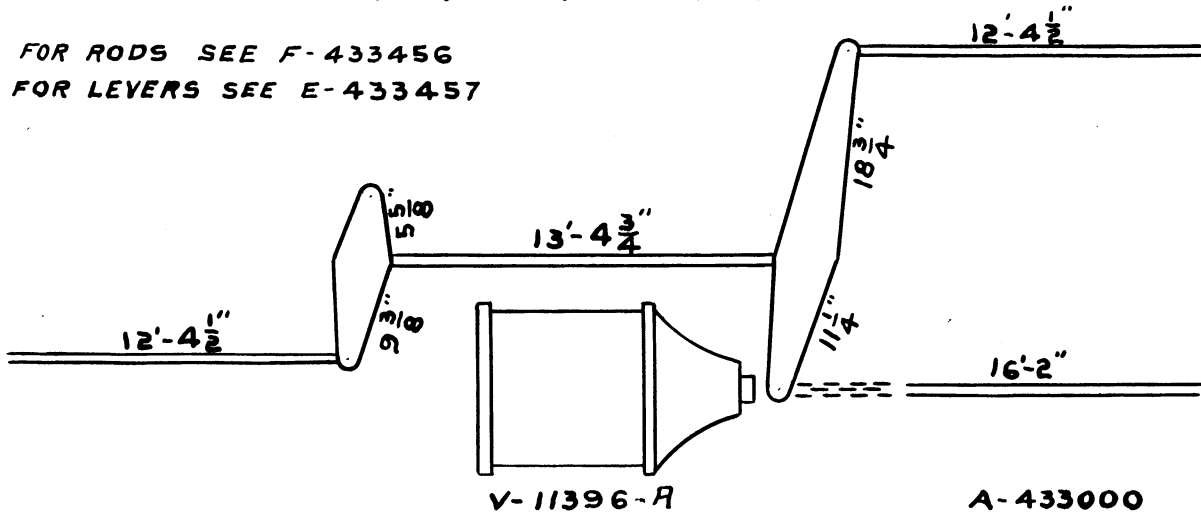
FOR LEVERS SEE E-433457





# X41C-X41 BRAKE RODS AND LEVERS

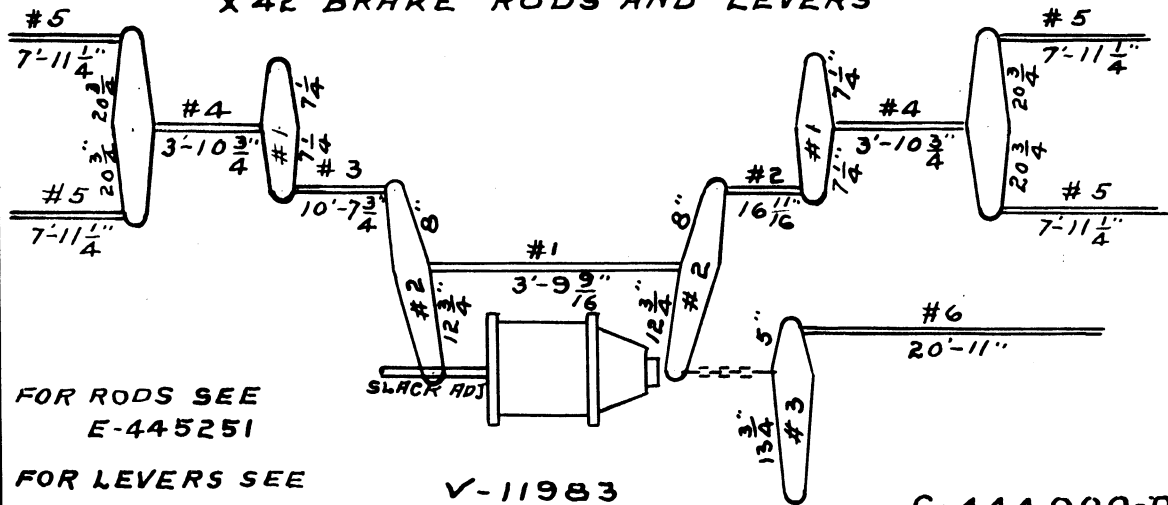
FOR RODS SEE F-433456  
FOR LEVERS SEE E-433457



V-11396-R

A-433000

# X 42 BRAKE RODS AND LEVERS



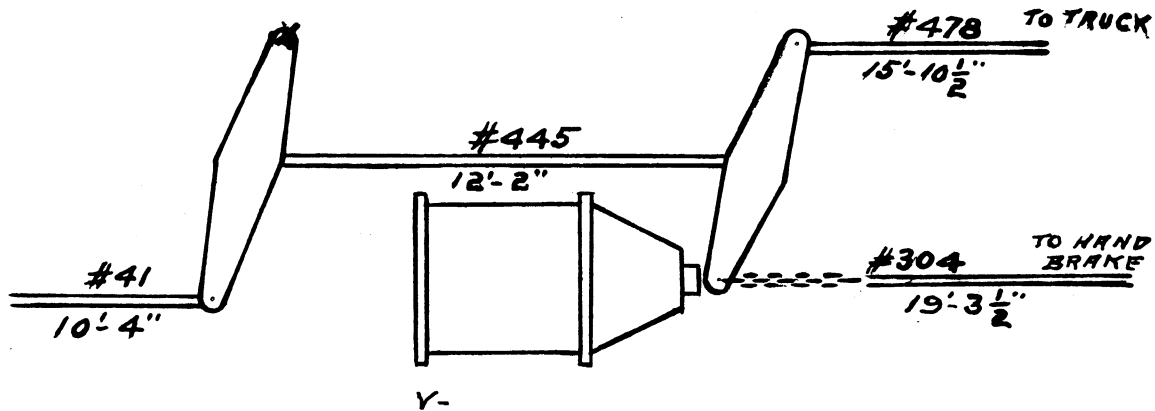
FOR RODS SEE  
E-445251

FOR LEVERS SEE  
E-445250

V-11983

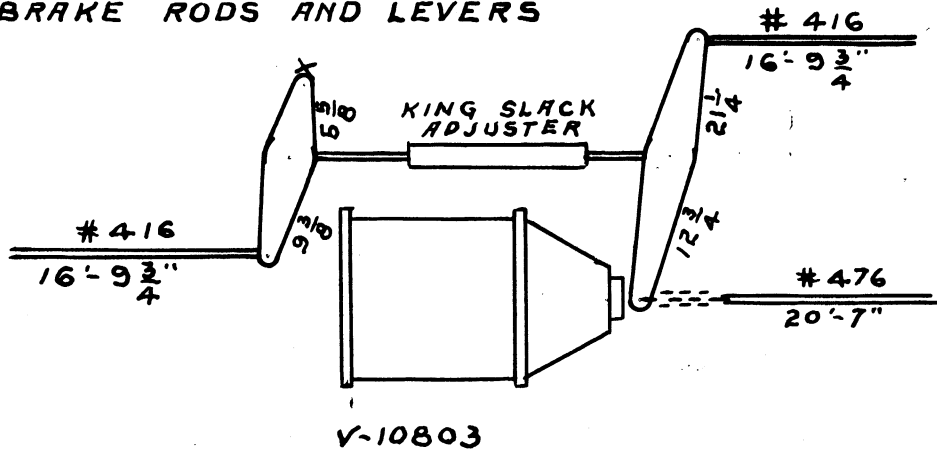
C-444000-D

# X44 BRAKE RODS AND LEVERS



A-449933

# X 45 BRAKE RODS AND LEVERS



A-446406-A

# X38 X38A BRAKE RODS AND LEVERS

