



ON THE SYSTEM

The Official Publication of the UNION PACIFIC RAILROAD HISTORICAL SOCIETY

Volume 1, Number 11, November, 1980

THE 3900 CLASS CSA CHALLENGERS, A CONTINUATION FROM LAST MONTH



UNION PACIFIC RAILROAD HISTORICAL SOCIETY

The UNION PACIFIC RAILROAD HISTORICAL SOCIETY is not affiliated with or supported by the Union Pacific Railroad.

Editor

Greg B. Davies

Associate Editors

George R. Cockle

Richard E. Buike

Contributing Editors

Mark W. Heinz

Tim Kaufman, S.J.

Circulation Manager

John H. Dow

Production Manager

Richard Bartholomew

ON THE SYSTEM is published monthly by the UNION PACIFIC RAILROAD HISTORICAL SOCIETY for the exclusive use of its membership. Contributions are accepted and invited and are subject to editing. Publication cut-off is the 15th of the month of issue. Address all correspondence, submissions and address changes to the UNION PACIFIC RAILROAD HISTORICAL SOCIETY, 8082 'H' St., Omaha, NE 68127. Phone (402) 592-4811. Unsolicited material, manuscripts, photographs and artwork must be accompanied by a return SSAE. All photographs used will be reproduced at the discretion of the Editor and credit lines used when the information is known. UNION PACIFIC RAILROAD HISTORICAL SOCIETY membership is \$20.00 per calendar year (12 issues). All rights reserved.

COVER PHOTO —

When this shot was taken in 1942 steam was still running heavy as one could imagine in this shot of the Laramie, WY engine facilities.

Photo courtesy Union Pacific Railroad

EDITORIAL

Our first year of operation is now coming to a close. We have only the year-end annual to produce which will be 128 pages, perfect bound with a color cover. But we are finally caught up on the monthly publications.

After a slow start earlier this year the membership skyrocketed during the summer which we were not prepared for and subsequently started us re-printing several issues. During the fall the membership slowed a little but not enough for us to totally catch-up. We have finally caught-up though with the issuing of the October and November issues to all members at the same time.

We do not anticipate this same problem next year as we now know what has to be done to keep up with you and produce the monthly issues on time. We also have more historic articles already prepared ready for dropping into any issue once the current news has been taken care of.

Next year we'll be doing several steam articles similar to the Challenger article of recent months. We will be doing a couple U.Profile articles on diesels either nearly gone or all together retired. We will be doing current events and changes as always plus some new things such as articles on operations at different points along the system. We will also have articles on painting and lettering and introduce some old freight equipment, at least one will be an old PFE reefer. I could go on and on detailing out what we have planned and partially prepared. But we can't. Contributions are a matter of choice. But your views can be interesting and are needed in order to keep the issues fresh with new approaches. Prepare an article around several good photos. If you need help, please feel free to ask. The article can

be based on past experiences or recent. Don't decide for us what we can't use. Let us do that. You may have a good article concept and not even know it.

In terms of books we are currently putting together the second and third books to be sold only to members. Both are on historic units long since gone and both will have an abundance of excellent photography. Nothing more will be said until we have them fully laid out. Except to say both will be under priced for their value. The membership dues for next year are not going up, but we are sure they will the following year as paper and postage plus printing expenses are expected to rise. In fact as you will notice on the renewal form there is a slight decrease if you join before January 1. This is due to the fact that you are on our mailing list now and as of January 1 anyone who hasn't renewed yet will be removed from the list to prepare for the January mailing. After that time renewals will be considered as new members and entered into the list as such. This may not seem like much but it is an administrative headache for us since we don't want to leave anyone off the list who should be on.

Overall this year has had its good points and bad. Without the bad we would have nothing to improve on and without the good no reason for even being here. We feel the future brings more good than bad and we plan to improve everywhere possible. We would even like to add 4 more pages to each issue sometime next year. This may not be possible but it is being looked at closely. We feel we have the material but costs are a factor that weigh heavy on any decision involving expansion. At any rate we have the future and the future looks great.

TABLE OF CONTENTS

Volume 1, Number 11, November, 1980



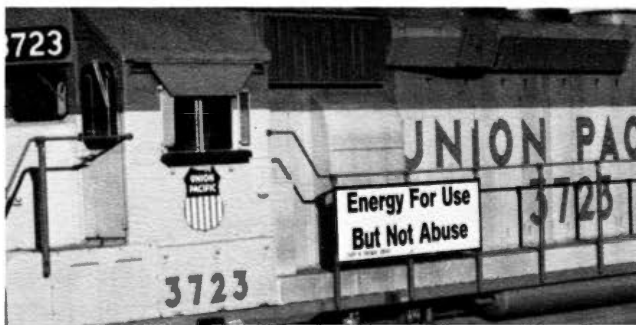
3975-3999
Class CSA-4
Challengers

Page 4

Oldest
Locomotive
On The
System



Page 8



A New
Look In
Diesel
Painting

Page 9

Spokane
International
RS-1's



Page 11

NEXT MONTH

JANUARY, 1980

- 3930-3949, CLASS CSA-5
CHALLENGERS
- SNOW PLOWS,
WHERE ARE THEY

NEWS BRIEFS

■ The remaining C-30-7's are now on the property. 2530-2539 were received this month as expected.

■ The first part of the 40 EMD SD-40-2's started coming in this month also. 3769-3789 were received under master builder number **796345**. The first quarter of 1981 will be the date the remaining 120 units will be delivered.

■ SW-10, **1210** (ex 1831) was released from the Omaha shops on October 28.

■ E-9's **954** and **960**, the last remaining E-9 A units were sold to Naparano Iron and Metal for either possible resale. If not sold to another railroad they would be scrapped by Naparano.

■ As of November 6 their were 108 units stored serviceable, 39 awaiting repair and 16 to be retired. Of the 108 stored, 32 6900's are in Las Vegas for the winter, 5 more in Council Bluffs leaving only 8 operating and 16 U-30-C's stored in Los Angeles.

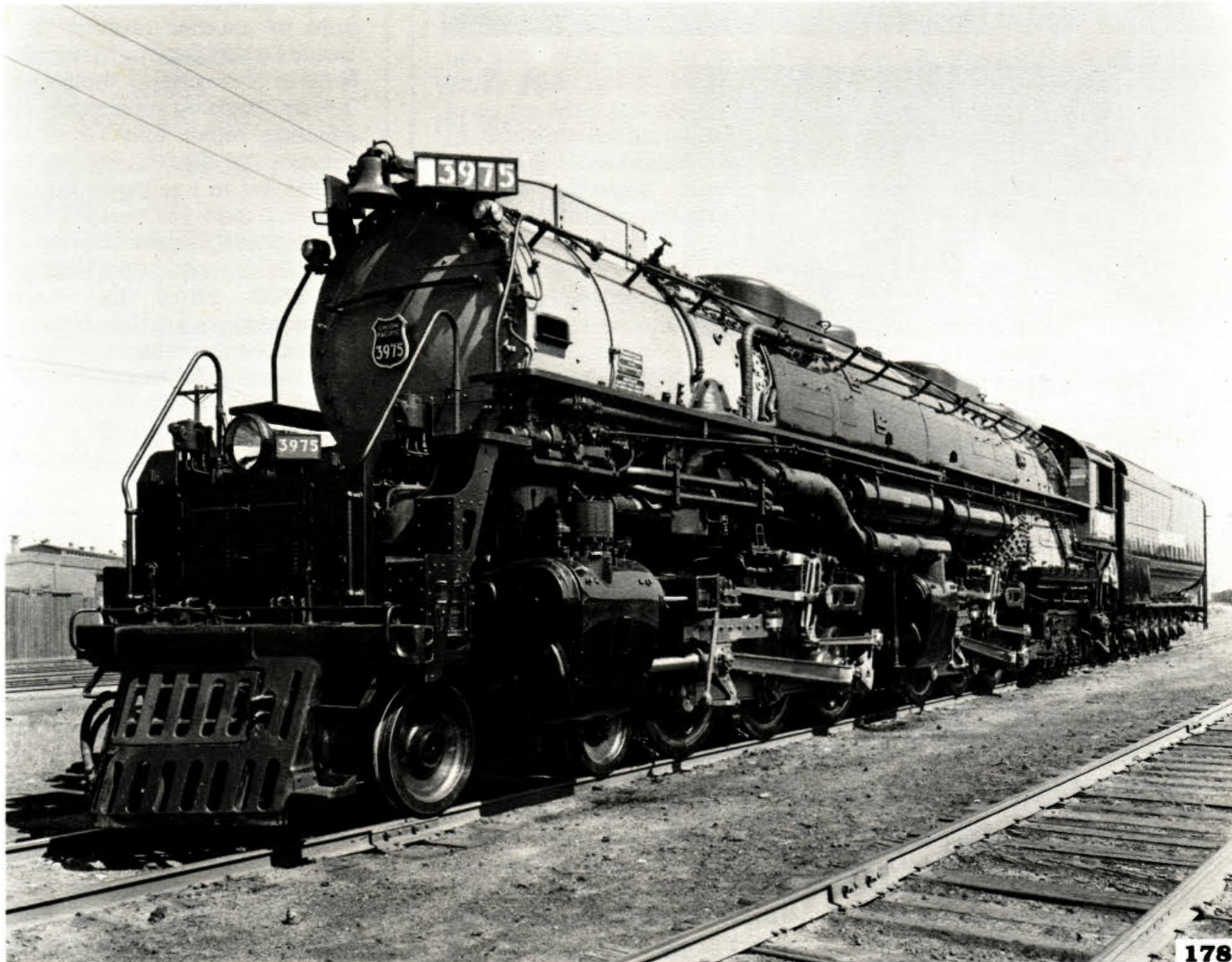
■ U-28-C, **2804**, has been converted into a mobile training center for teaching U.P. shop employees how to repair the GE diesel. The car body has been removed and parts of the engine have been cut into to show how the engine works. The unit will travel the system to each major shop.

■ SD-45, **14**, is now in Salt Lake City awaiting the word to move it to Boise where another Sulzer engine will be installed. Upon completion it will be numbered 61 after the first conversion, 60, which is now being tested in Idaho on the U.P.

■ Slug Set, **S-4**, is stored in North Platte ready for Spring work in M of W service. The set was recently worked on adding larger sand boxes, from DD-35's, for longer service away from yards. Other Slug Sets may have this treatment applied later if this unit is successful.

3975-3999 CLASS CSA 69 - $\frac{21-21}{32}$ - 404

Original Number	Class	Built	Builder Number	Tractive Effort	Weight	Converted to Oil	Renumb.	Date	Retired
3975	CSA-4	6/43	70158	97,350	404,000	11/44	3708	11/52	3/61
3976	CSA-4	6/43	70159	97,350	404,000	11/44	3709	11/52	10/59
3977	CSA-4	6/43	70160	97,350	404,000	11/44	3710	11/52	11/61**
3978	CSA-4	7/43	70161	97,350	404,000	11/44	3711	11/52	12/58
3979	CSA-4	7/43	70162	97,350	404,000	11/44	3712	12/52	3/61
3980	CSA-4	7/43	70169	97,350	404,000	11/46	3713	11/52	6/61
3981	CSA-4	7/43	70170	97,350	404,000	11/46	3714	12/52	12/58
3982	CSA-4	7/43	70171	97,350	404,000	11/46	3715	10/52	7/62
3983	CSA-4	7/43	70172	97,350	404,000	11/46	3716	11/52	10/59
3984	CSA-4	7/43	70173	97,350	404,000	11/46	3717	11/52	10/59
3985	CSA-4	8/43	70174	97,350	404,000	—	—	—	7/62
3986	CSA-4	8/43	70175	97,350	404,000	—	—	—	4/60
3987	CSA-4	8/43	70176	97,350	404,000	—	—	—	4/60
3988	CSA-4	8/43	70177	97,350	404,000	—	—	—	10/60
3989	CSA-4	8/43	70178	97,350	404,000	—	—	—	8/60
3990	CSA-4	8/43	70179	97,350	404,000	—	—	—	8/60
3991	CSA-4	8/43	70180	97,350	404,000	—	—	—	3/61
3992	CSA-4	8/43	70181	97,350	404,000	—	—	—	8/60



3975 is seen here right after it had been delivered from the American Locomotive Co. in New York. The location is not known but might have been Omaha with the Omaha shops in the background. Photo courtesy Union Pacific Railroad

Original Number	Class	Built	Builder Number	Tractive Effort	Weight	Converted to Oil	Renumb.	Date	Retired
3993	CSA-4	8/43	70182	97,350	404,000	—	—	—	8/60
3994	CSA-4	9/43	70678	97,350	404,000	—	—	—	7/59
3995	CSA-4	9/43	70679	97,350	404,000	—	—	—	10/60
3996	CSA-4	9/43	70680	97,350	404,000	—	—	—	10/60
3997	CSA-4	9/43	70681	97,350	404,000	—	—	—	10/60
3998	CSA-4	9/43	70682	97,350	404,000	—	—	—	12/60
3999	CSA-4	9/43	70683	97,350	404,000	—	—	—	12/60

Builder: AMERICAN LOCOMOTIVE CO., Schenectady, NY

As built, they were coal burning and some were converted to oil burning while the rest remained coal burning

****Converted to Snow Melter 900079.**



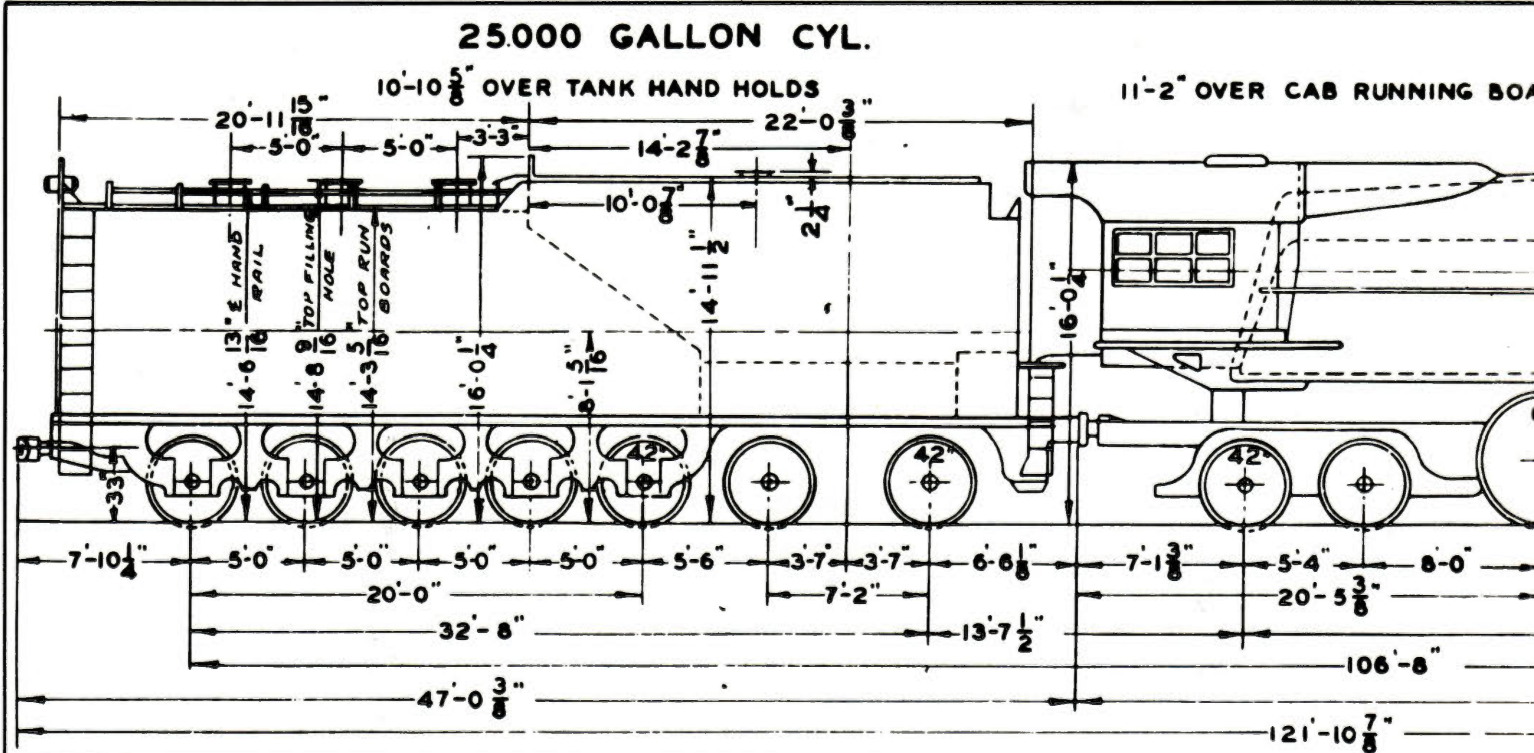
179

Challenger 3957, Class CSA-3, is westbound just west of Rawlins, WY in the winter of an unknown year. Photo courtesy Union Pacific RR.



180

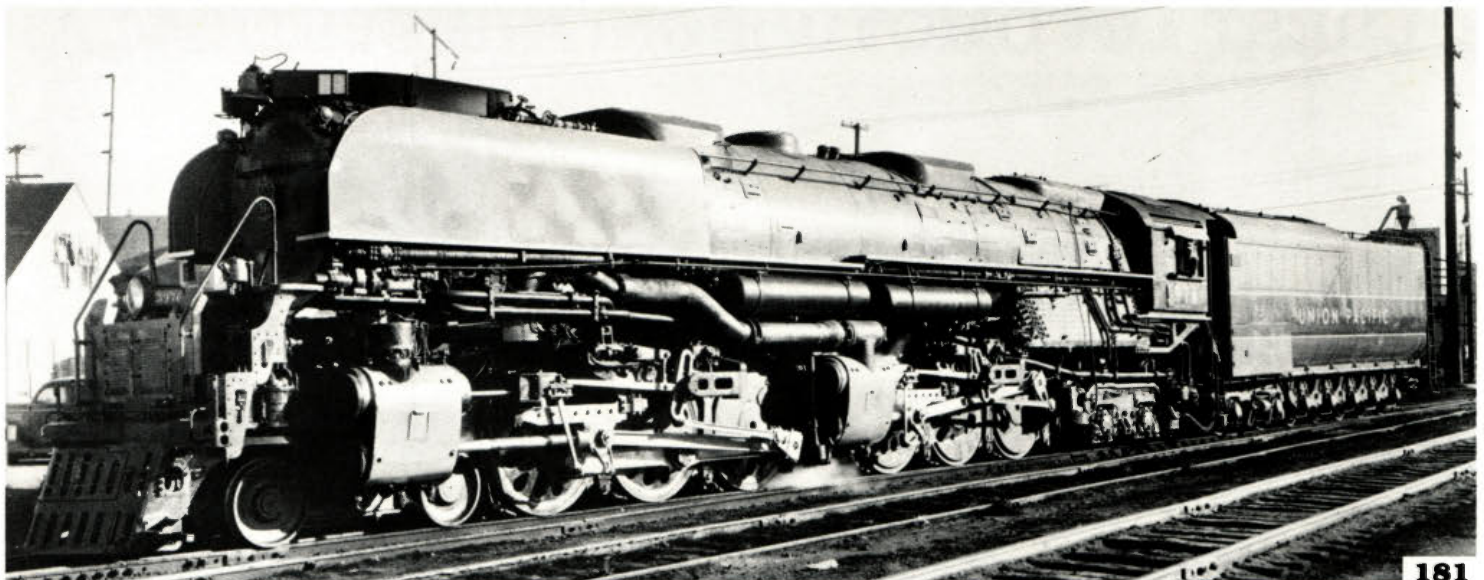
Although only 2 numbers away from the highest numbered Challenger, 3997, was not one of the last to be purchased. This class is the CSA-4 and the last order, 3930-3949, were class CSA-5 4-6-6-4 Challengers. Photo courtesy Union Pacific Railroad



TENDER

WATER CAP.		FUEL CAP.	
GALLONS		OIL	
25,000		5945 GALS.	
WT. OF TENDER		TOTAL WT.	
LIGHT	LOADED	ENG. & TEND.	
184,600	441,900	LOADED	
TENDER FRAME		BUILT	
TRUCK		A. L. CO.	
WATER BOTTOM		1943	
GENERAL STEEL			
TIMKEN ROLLER BEARINGS			

LOCOMOTIVES DESIGNED FOR 20 DEGREES MAXIMUM CURVATURE



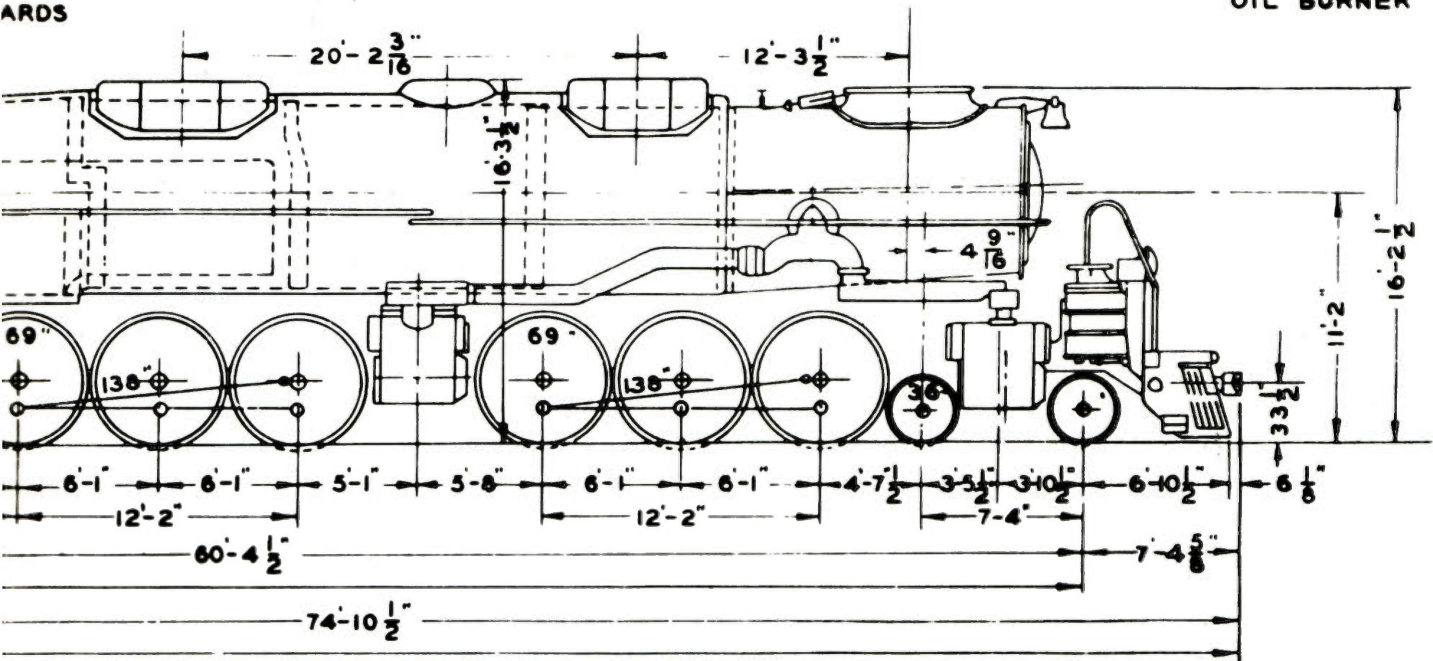
181

Several of the Challengers were painted in the two-tone gray scheme and equipped with smoke lifters for passenger service. 3976 is one of those Challengers. Although repainted into black at a later time many kept their smoke lifters. Photo courtesy Union Pacific Railroad

LOCOMOTIVES 3975-3999

4-8-6-4 69 $\frac{21-21}{32}$ 404
OIL BURNER

ARDS



ENGINE

BOILER		FIREBOX		TUBES			EVAPORATING SURFACE - SQ. FT.					
INSIDE DIA	PRESSURE	LENGTH	WIDTH	NUMBER	DIA.	LENGTH	TUBES	FLUES	FIREBOX	CIRCULATORS	TOTAL	
94 $\frac{11}{16}$ "	280 LBS.	187 $\frac{32}{32}$ "	108 $\frac{3}{16}$ "	45 177	2 $\frac{1}{4}$ " 4"	20'-0"	527	3688	519	-	4734	
SUPERHEATER SURFACE SQUARE FT.		GRATE AREA SQUARE FT.		CYLINDERS		WHEEL BASE		WEIGHT IN WORKING ORDER - LBS.			TOTAL LT. WT ENGINE	
2085	-	-	-	DIA.	STROKE	DRIVING	ENGINE	ENG. TRUCK	DRIVERS	TR. TRUCK	TOTAL	575 800
2085	-	21"	32"	35'-1"	60'-4 $\frac{1}{2}$ "	102 300	404 000	12 1600	627 900	-	575 800	
DRIVING WHEEL DIA.	MAXIMUM TRACTIVE EFFORT	FACTOR OF ADHESION	AIR PUMP	VALVE GEAR	F. W. HTR.		STOKER	SUPERHTR	ROLLER BEARINGS			BUILT
					ELESCO EXHAUST STEAM	STANDARD			TYPE	ENG. TR.	DRIVERS	
69"	97.350	4.15	2-8 $\frac{1}{2}$ CC.	WALSCH-AERTS	ELESCO EXHAUST STEAM	M.B.	E	S.K.F.	TIMKEN	S.K.F.	-	1943

UNION PACIFIC RAILROAD CO.
RESEARCH AND
MECHANICAL STANDARDS

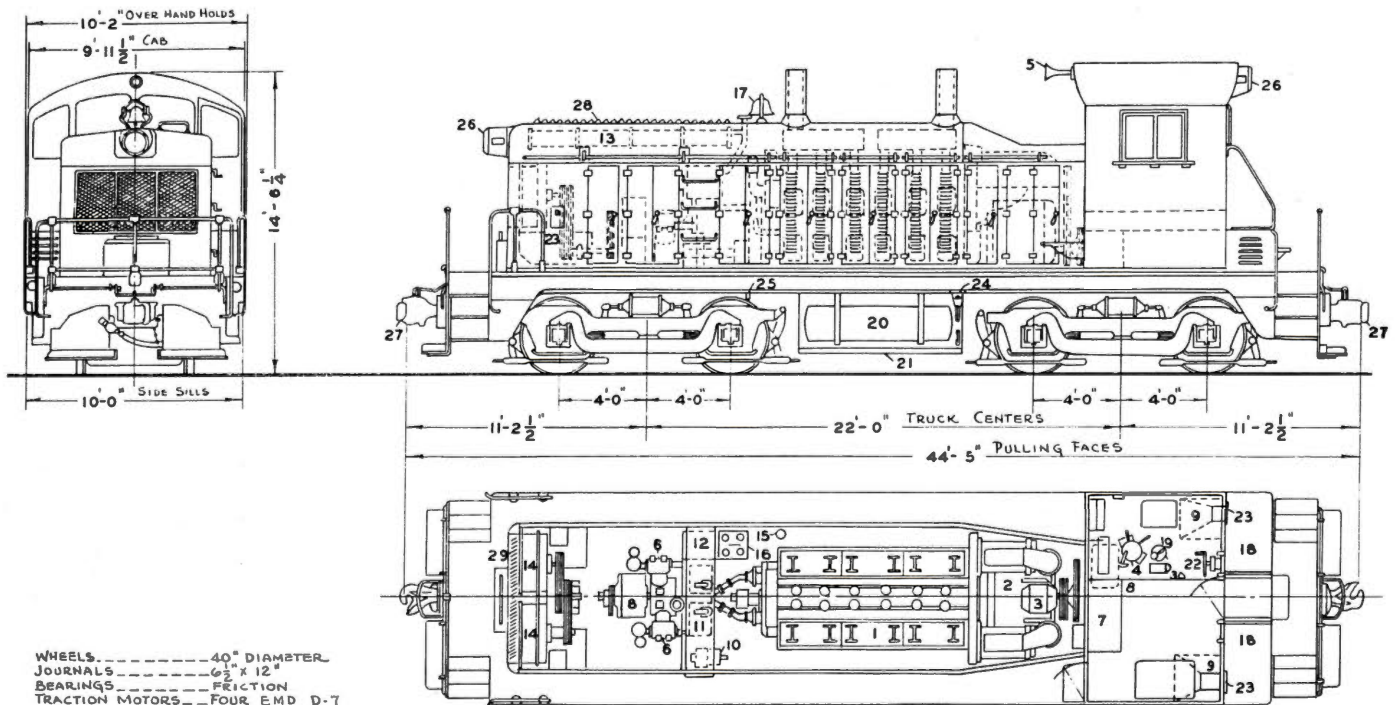
OLDEST LOCOMOTIVE ON THE SYSTEM



182

NW-2, 1006, is the oldest operating diesel locomotive on the U.P. today. It was built in May, 1940 and assigned builder number 1007. Seen here on June 19, 1944 switching in Salt Lake City in the old black switcher paint scheme. We will be covering this paint scheme next year as an article, including a painting and lettering diagram and several other shots of the other switchers painted in this scheme. Photo by W. C. Whittaker

1000 HP DIESEL ELECTRIC SWITCHER ROAD NUMBERS: ~ 1000 TO 1050



WHEELS ----- 40" DIAMETER
JOURNALS ----- 6 1/2" X 12"
BEARINGS ----- FRICTION
TRACTION MOTORS ----- FOUR EMD D-7

DRAFT GEAR ----- FRICTION... 1000-1035
RUBBER NAT'L MALL. TYPE M-17-A & M5-485-3A
FIRE EXTINGUISHERS ----- CAB - 1 NO. 30 ANSUL
ENG. ROOM - 1 NO. 30 ANSUL

EQUIPMENT

{12567 - 1000-1035

1. ENGINE - EMD 1000 HP MODEL 12567-A-1036-1050
2. GENERATOR - EMD MODEL D-4-600 VOLT D.C.
3. AUXILIARY GENERATOR - DELCO MODEL A-3001
4. CONTROLLER
5. HORN
6. AIR COMPRESSOR - GARDNER-DENVER TYPE WXE
CAPACITY - 175 C.F.M.
7. ELECTRICAL CONTROL CABINET
8. TRACTION MOTOR BLOWER
9. SAND BOXES
10. FUEL PUMP

11. OIL COOLER
12. COOLING WATER TANK
13. RADIATOR
14. 34" COOLING FANS
15. LUBE OIL FILTER
16. LUBE OIL TANK
17. BELL
18. BATTERIES - 426 A.H @ 3 HR. RATE - 64 V.
19. AIR BRAKE VALVES SCHEDULE 14 EL
20. AIR RESERVOIRS 2 - 22 1/2" X 84"

21. FUEL TANKS
22. HAND BRAKE
23. SAND BOX FILLER
24. FUEL FILLER
25. ENGINE WATER FILLER
26. HEADLIGHT
27. COUPLER - "TYPE E"
28. COOLING AIR OUTLET LOUVERS
29. RADIATOR SHUTTERS
30. SERRAVALLO WATER COOLER

A NEW LOOK IN DIESEL PAINTING



183

3701, 3617, 3639 and 3619 are westbound at Green River, WY on August 2, 1980. All four units are sporting the same slogan sign. Photo by Tim Kaufman

Over the past several months the Union Pacific Railroad has been making small variations in their basic paint scheme. They are not through, as several variations that are on the drawing board are not on any engines yet. This article is only meant to bring you up-to-date on what has happened so far and might happen in the future.

The first sign that things might be changing was when some of the latest 3700's started

sporting slogan signs similar to the slogan signs found on cabooses. There are to be 15 different variations in slogans. The slogan depicted here seems to be the most popular so far. This program started in August when 8073 was repainted and renumbered to 3408 and a slogan sign was attached. Since then 3700's have been appearing with them. All units in the 3609-3768 series are to get the slogan sign application.

So far we have only seen 3700's and no 3600's yet.

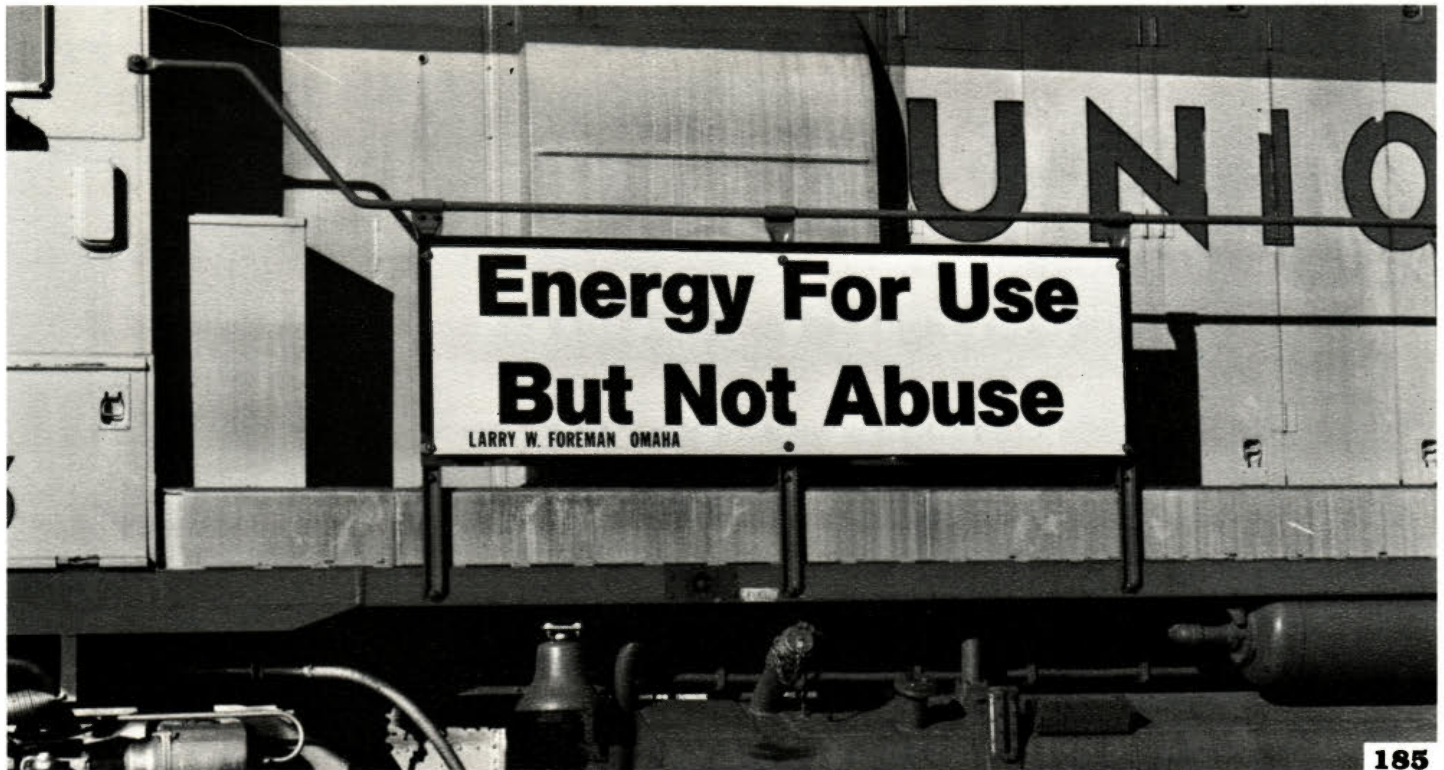
For several reasons the unit numbers are disappearing, re-appearing and changing. There are 4 variations that have or might happen.

The first change came when the new 2500's, C-30-7's, came on property. The change was the removal of the cab numbers under the 24 inch shield. The initials 'U.P.' were also removed from the nose of the new GE



184

3723 was found in Council Bluffs on October 8, 1980 sporting this slogan sign. 3721 did not have one. Photo by G.B. Davies



185

3723 is equipped with the above sign. The sign is white with black lettering and edging. Photo by G.B. Davies

units. Its still on the back though. New painting changes call for all grab irons, vertical handrails and step edges to be painted in armour yellow rather than gray. The first change was economically generated while the new painting change is evidently for safety reasons.

The second variation can only be found on 3779, which is the only new SD-40-2 unit to be lettered of the 40 1981 units so far on property. These units are

being delivered without lettering and are only numbered in the number boards. From the sounds of things they will not be lettered until a final variation is picked. The variation is this - no long hood number, the same size numbers are now located on the cab and the 24 inch shield is on the nose and all nose lettering has been removed. This news comes to us second-hand as we have not yet seen this unit so there might

be other changes we are not aware of.

The last two variations are ideas at this point. They pertain to identification problems experienced by video scanners used in some yards for identifying and verifying train consists. Change three would be an increase in the number edging from a 1/4 inch black stripe to a 1/2 inch black stripe and the use of non-reflective decals. The fourth and final



186

The other side of 3723 shows the same slogan sign located in about the same location as the one on the opposite side. Photo by G.B. Davies

variation we are aware of would be a solid black number similar in size to that currently being used.

Other changes may come in the future as U.P. strives to find an economical and descriptive way of lettering and numbering their

units. We will bring any more of these changes to your attention as soon as we have the information.



187

Brand new C-30-7, 2505, is seen here in Council Bluffs in early August depicting the new changes in painting and lettering. Photo by G.B. Davies

SPOKANE INTERNATIONAL RS-1'S



188

As an addition to the article on the Spokane International Railroad we add this shot of 1215 in fresh U.P. yellow and gray, aluminum trucks and red lettering. This units was completed on March 12, 1962 when most of the other RS-1's were painted. Photo courtesy Union Pacific

LOCATION: Columbus, NE

DATE: Unknown



189

Northern, 828, an FEF class 4-8-4 is seen here passing under the coal chute at Columbus, NE with passenger train number 21 on its westbound journey. Photo courtesy Union Pacific Railroad

