



Product Support Bulletin 2005-006

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Maintenance of Way ~ Work Equipment Bulletin

DATE: June 28, 2005

SUBJECT: Upgrading of Schroeder Industries KF30 Pressure Filters to KF50 Standards

RATING:

<input checked="" type="checkbox"/> DIRECTIVE (Action is required)	<input type="checkbox"/> ALERT (Potential Problem)
<input type="checkbox"/> INFORMATION (Action is optional)	<input type="checkbox"/> PRODUCT IMPROVEMENT (Enhance Product)

MACHINE MODEL(S): All Nordco Machines with Schroeder KF30 Pressure Filters operating with a 2500 psi or above main relief valve setting. See Table 1 on Page 2 for a list of affected machines.

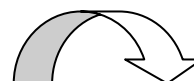
SERIAL NUMBER(S): All

SUMMARY: Nordco has been notified by Schroeder Industries of a potential cyclical failure problem with the KF30 pressure filters supplied on many Nordco machines. The filter tube may crack after many pressure spikes of over 2500 psi. The problem is intensified if the tube has been heated to remove the filter cover when replacing the elements.

OPERATIONAL IMPACT: A cracked filter tube will result in downtime of the machine due to hydraulic oil leaking as well as possible personal injury due to pressurized oil spraying out of the filter. In very rare instances, the tube may also rupture.

ACTION: The KF30 tubes **MUST** be replaced with KF50 tubes following the instructions outlined in the Schroeder Product Service Bulletin reprinted on pages 3 & 4 of this bulletin. In addition, if the filter cap is of the older flush design, the cap must also be replaced with the current design cap. See the Schroeder Bulletin to identify which cap is on the filter.

Filters are supplied in 1, 2, or 3-element versions depending on the machine. There are 2 kits available for each size filter; a kit with just a tube and seals, and a kit with a tube, seals and a new cap for filters with the earlier, flush design cap. See Table 1 for a list of the kit part numbers.



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WARRANTY:

Any Nordco machine produced in 2004 or 2005 will have the filter tubes replaced under warranty. All of these machines will have the later design cap, so only the tube must be replaced.

For machines built prior to 2004, as a service to our customers, tube and/or tube-cap kits may be purchased from Nordco at our cost. Contact the Nordco Service Department at 800-445-9258 to order. **The serial number of the machine must be provided when ordering a replacement tube or kit.** Contact the Nordco Service Department for more information.

TABLE 1 – NORDCO MACHINE MODELS AFFECTED BY THIS BULLETIN

Machine Model	Machine Serial Numbers	Number of Elements	Tube Only Kit	Tube & Cap Kit
Anchor Remover	670001-670030	2	98410452	98410451
Auto-Lift	528-529, 547-549, 556-558, 790571-790659, 791001-791008	1	98790172	98790171
G2 Ballast Regulator	810150-810191 (Note: These machines have 2 filters each. Two kits will be required per machine)	1	98790172	98790171
Grabber Spike Puller	463-469, 483-488, 330601-330674, 331001	2	98410452	98410451
M2-14 Ballast Regulator/Snow Fighter	800201-800228	1	98790172	98790171
M3-A Master Machine	574, 581	1	98790172	98790171
M3-B, M3-C, M3-D Master Machine	450001-450100, 450200-450222	2	98410452	98410451
Model 44 Hydra-Spiker	440001-440008	2	98410452	98410451
Model B & B-2 Hydra-Hammer	1009-1074	2	98410452	98410451
Model C & 99C Spiking Machine	410010-410424	2	98410452	98410451
Model CX Spiking Machine	410500-410634 except 410629, 410635-410636	2	98410452	98410451
Model E & F Anchor Applicator	680232-680286	2	98410452	98410451
NETP Chemical Tie Plugger	510001-510032	2	98410452	98410451
RTP Chemical Tie Plugger	530001-530015	1	98790172	98790171
SP2R Spike Puller	310001-310014	2	98410452	98410451
SS Spiker	390106 only	1	98790172	98790171
Super Claws Spike Puller	417-448, 350500-350536 except 350535	1	98790172	98790171
TRIPP Tie Inserter/Extractor	760125-760189 except 760184	3	98760028	98760027
TTSS Lag Screw Driver	400100-400111	2	98410452	98410451

Note: Only **PRESSURE FILTERS** are affected by this bulletin. Return line filters are not affected and do not have to be converted.



May 18, 2005

PRODUCT SERVICE BULLETIN

Product type: KF30 filter housing

Application: Railroad maintenance of way equipment

Improvement:

- (1) Addition of seal in KF30 & KF50 cap to prevent wicking of water through threads or close tolerance surfaces.
- (2) Replacement of KF30 housing tube with a KF50 housing tube.

Description of improvement and background:

The KF30 filter housing is a popular selection for protecting maintenance of way equipment hydraulics. During winter down time for this machinery, it is possible for water to slowly create rust in the filter cap threads (where the cap is threaded into the tube). This rust can make it exceptionally difficult to remove the filter cap when changing elements. Occasionally cutting torches are used to heat the tube to remove the cap. "Due to the intense heat generated by a cutting torch the metallurgical properties of the tube can be changed and cause a thermal fatigue or thermal shock failure".

A new cap design is available with a weather seal to prevent thread corrosion in outside installations.

Reference: "Steel Founders Society of America <http://www.sfsa.org/sfsa/glossary/deftrmtt.html>"

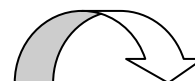
The tube portion of the KF30 filter has shown stress cracks that can result in the filter tube failing at the base or the cap in cyclical applications that exceed the fatigue pressure rating of the KF30 housing (2500 PSI).

It has been determined that some equipment is operating with pressure spikes above 2500 PSI. This operation will cause a decreased fatigue life. Older equipment subjected to cyclic conditions could have exceeded or is approaching the fatigue life rating of the KF30 filter housing (fatigue pressure testing is terminated at 1,000,000 cycles per NFPA T2.6.1). This, along with the extreme heat used to remove the caps eclipse the KF30's published fatigue rating of 2500PSI, causing the tube to fail.

The equipment susceptible to these failures usually has high pressure and fast acting hydraulics.

Recommendation: For 1994 and newer equipment with the above mentioned high pressure fast acting hydraulics the following should be completed as soon as possible;

- (1) Replacement of current cap of the KF30 with the new design (Newer equipment may already have the new style cap).
- (2) Replacement of KF30 filter tube with KF50 filter tube (KF50 fatigue rating is 3500PSI).



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Point of contact for customer: Nordco Inc. Service Department
Gary D. Van Deluyster, Service Manager, phone 1-800-445-9258

KF30 retrofit kits can be purchased direct from Nordco Inc.
Retrofit kits consists of new style cap, appropriate tube, seal kit, loctite and instructions
Kit part numbers are as follows;

98790171 for filter KF301 (1 element)
98410451 for filter KF302 (2 elements)
98760027 for filter KF303 (3 elements)

KF50 replacement tube kit for newer filters having the new style cap, to determine if you have the newer filters look at the name plate on the cap there will be three letters stamped on the filter the first letter stands for the month (example **A=January, B=February etc.**) the next two letters designate the year (example **DD=2000, EE=2001 etc**) The date code of **DEE or newer will have the new style cap.**

The replace tube kit consists of one tube two o-rings and two back-up rings, loctite and Instructions.

Kit part numbers are as follows;

98790172 KF501K tube (1 element)
98410452 KF502K tube (2 elements)
98760028 KF503K tube (3 elements)

Directions for replacement of KF30 filter tube:

- Drain oil from the filter housing using drain plug located on the right side of the porting block when looking at the inlet port of the filter. A 9/16" socket is need to remove the plug.
- Remove filter cap using a 1 5/16" socket turning counter clockwise remove elements retain the spring plate and compression spring and any element connectors (used in 2K and 3K housings). These parts are to be reused when installing elements.
- Using a chain wrench near the base of the housing, remove the filter tube turning counter clockwise (may require a length of pipe on the chain wrench to break loose the Loctite®). If the loctite will not break loose you may need to apply light heating of the tube using a propane torch. **DO NOT USE A CUTTING TORCH.**
- Replace back-up ring and o-ring on base, clean threads on the base and the new tube, apply supplied Loctite® to the threads of the new KF50 tube and then thread the tube onto the filter base turning clockwise.
- Tighten with chain wrench until the tube bottoms out.
- Replace filter elements. Be sure to use element connectors where required (2K and 3K housings). Install compression plate in element then install compression spring.
- Inspect o-rings and back-up rings if cap is new style with lip seal, replace the o-ring and back up-ring if needed.
- Install cap and tighten until cap bottoms out. Or use a torque wrench and tighten to 30 FT.LBS