PROF. IGOR PAUL
Rm. 3-451, M.I.T.
CAMBRIDGE, MA 02139

Memo
LETTER

To Mr. Lad J. Roth
Hahn and Swadey
1404 E. Ninth St
Cleveland, Oh 44114

Subject Oldfield v
Greenlee
85004

Doc. 350

Dear Mr. Roth:

Based upon my review of the materials you provided in conjunction with this case including the photographs, drawings, report, manuals, test results etc, the following supplements my professional opinion on the defective design of the Greenlee 708 cable cutter which I expressed in my 1/24/86 memo to'you. All the professional opinions expressed in that memo are still valid and have been supported by the additional drawings and test results you provided. The present memo simply serves to augment the previous report in light of the test reports produced since my last opinion.

The failure of the Greenlee Model 708 Cable cutter at the time of the accident occured because of the improper, inadequate and defective design of the shoulder screw attachment to the blade handle unit, The cantilevered shoulder screw attachment without counterbore to support the bending moment contribution of the transmitted shear forces is not proper design practice and particularly when some looseness develops the screw threads can be expected to fail under the expected and designed for shearing forces. The markings on the shoulder screw and its support surfaces (as described in the previous memo) clearly show that this was, in fact, the mode of failure. The Greenlee test results ET 02-092 specifically show that counterboring the seat for the shoulder screw to provide bending support for the shoulder screw more then doubles the shear strength of the connection (see test results), and, in fact, recommends the counterbored configuration which is the proper method of seating a shoulders screw under these kinds of loading conditions. Proper design of this connection would have prevented this accident, Wear of the cutting surfaces of the cable cutter are certainly an expected and foreseeable condition of the tool and the increased shear forces could easily be handled by a properly secured shoulder screw design.

Best regards,

SIGNED

☐ Please reply ☐ No reply necessary