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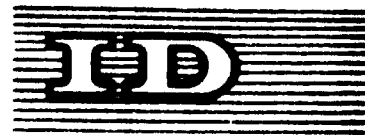
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# D01164



United Nations Industrial Development Organization

Distr.  
LIMITED

ID/WG.62/19  
15 June 1970

ORIGINAL: ENGLISH

Symposium on Maintenance and Repair in Developing Countries

Duisburg, Federal Republic of Germany, 10 - 17 November 1970

A BIBLIOGRAPHICAL GUIDE TO INFORMATION SOURCES  
ON THE SUBJECT OF MAINTENANCE AND REPAIR <sup>1/</sup>

prepared by  
the secretariat of UNIDO

Organised in co-operation with the German Foundation for  
Developing Countries and the German Association of Machinery  
Manufacturers (VDMA).

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Id. 70-3665

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## INTRODUCTION

The promotion of industrialization of the developing countries has led to the build up of an ever growing stock of machinery and equipment. The stage has now been reached where awareness and understanding of maintenance and repair problems and a better knowledge of the specialized techniques involved is necessary.

The United Nations Industrial Development Organization (UNIDO) programme of work provides for aid to developing countries to improve their maintenance and repair facilities. In this connection, it was agreed that a survey of existing information material should be made by compiling the relevant literature and other information sources.\*

Among the recommendations worked out by UNIDO in its basic Report ID/1. of 21 April 1967, special attention was drawn to the need to:

" . . . . collect and disseminate information on maintenance and repair and inventory problems and practices, and to answer queries from industry on this subject."

and to make

" . . . . available to Governments, firms and other relevant institutions of developing countries all available books, pamphlets, and other documents on maintenance and maintenance management."

It is hoped that the present bibliographical guide prepared by the Industrial Information Section of UNIDO with a view assistance to government agencies, organizations and enterprises in developing countries in their difficult task of promoting and improving maintenance and repair facilities.

This guide does not attempt a full coverage of all existing documents, references and information media on the subject, but attempts to list, on a rather selective basis, relevant information. Organizations which can be contacted for further and more detailed information on specific questions are indicated.

A supplement to this guide will be published at a later date which will include a subject index.

UNIDO would like to take this opportunity to express its thanks to all the information centres and agencies which contributed to the compilation of the Guide, and in particular, to the Techninform OMB BK Redapost, Hawaii, which made a major contribution to this bibliography.

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\* Information so far listed include not only manufacturing but also servicing industries, as well as machinery and equipment in use for agricultural purposes and the construction of roads, bridges, dams and other building.

1. HANDBOOKS, MANUALS AND TEXTBOOKS

1.1 General

1. BREWER, A.F.: Basic lubrication practice. New York, Reinhold, 1955. 300 p.
2. CLEMENT, E.J., HARRINGTON, C.C.: Plant maintenance manual. 2nd. ed. New York, Conover-Mast, 1952. 340 p.
3. CORDER, C.G.: Organizing maintenance. London, British Inst. of Management, Gee and Co., 1963. 230 p.
4. DETHOOR, J.M., GROECILLOT, J.L.: La vie des équipements. Paris, Demod, 1968. 252 p.
5. Effective maintenance management. Organization, motivation and control in industrial maintenance. New York, McGraw-Hill, 1967. 368 p.
6. ELLIS, E.G.: Fundamentals of lubrication. Bresely, Shropsh. Scientific Publications Ltd. 1968. 132 p.
7. L'entretien et l'inspection des équipements dans les pays en expansion industrielle. - Equipment, inspection and maintenance in industrially expanding countries. Part 1.2., Paris, Institut Français du Pétrole - Bureau d'Etudes industrielles et de cooperation, 1967. 21 + 21 p.
8. FORBES, W.G. - POPL, C.L. - LIVERMONT, W.T.: Lubrication of industrial and marine machinery. New York, Wiley, 1954. 351 p.
9. GELBERG, B.T., PEKELIS, C.D.: The maintenance of industrial equipment. Moscow, Proftekhizdat, 1964. 280 p. (in Russian).
10. IL'ENCSENKO, M.: Complex organization methods of maintenance and servicing equipment; their economic efficiency. Kiev, 1968. 44 p. (in Russian)
11. Manual of maintenance. Vol. -III. Ed. R. Clements and D. Parker. London, 1964. 190 p.
12. Mellan, I.: Corrosion resistant materials handbook 1966. Park Ridge, Noyes Development Corp., 1967. 240 p.
13. MILLER, E.J., BLEND, C.J.: Modern maintenance management. New York, American Management Association, 1963. 144 p.
14. MORROW, L.: Maintenance engineering handbook. 2nd ed. New York, McGraw-Hill, 1967.
15. NEMANOVICH, E.T.: Effective management. Organization, motivation and control in industrial maintenance. New York, McGraw-Hill, 1967.
16. Production handbook. Ed. G.H. PARSON. 2nd ed. New York, Ronald Press Co. 1967, 411 p.
17. REED, Jr.: Plant location, layout and maintenance. London, Irvin, 1967. 470 p.

18. SACK, T.F.: A complete guide to building and plant maintenance. Englewood Cliffs, Prentice Hall, 1965. 512 p.
19. Le service entretien. Méthodes actuelles de gestion par les collaborateurs de la Revue entretien et travaux neufs. Paris, Entreprise moderne d'édition, 1968. 400 p.
20. SKIBA, I.F.: Economic efficiency of the techniques, organisation and technology of repairing. Moscow, Izd. Transport, 1964. 242 p. (in Russian).
21. STANIAR, W.: Plant engineering handbook. 2nd ed. New York - London, McGraw-Hill, 1959. 2150 p.
22. STEWART, H.V.M.: Guide to efficient maintenance management. London, Business Publ. 1963. 168 p.
23. WILSON, C.L., GATES, S.A.: Corrosion and the maintenance engineer. New York, Hart Publ. Co., 1968. 196 p.

#### 1.2 Specific

24. ABBEY, S.: Diesel fault tracing maintenance and repair. 4th ed. London, Pitman, 1968. 283 p.
25. HUBERT, C.I.: Preventive maintenance of electrical equipment. New York, 1955. McGraw-Hill, 214 p.
26. JOHNSON, S.M.: Deterioration, maintenance and repair of structures. New York etc. 1965. 373 p.
27. JUDGE, N.: Maintenance of high-speed diesel-engines. London, Chapman and Hall, 1968. 422 p.
28. KEMBALA, G.: Maintenance of mechanical equipment. Budapest, Műszaki Kiadó, 1965. 287 p. (in Hungarian).
29. LAUGHNER, V.F., HARGAN, A.D.: Handbook of fastening and joining metal parts. New York, McGraw-Hill, 1956. 622 p.
30. Maintainability of electronic equipment. London, Reinhold, 1968. 140 p.
31. Maintenance and repair of motor vehicles, a practical instruction manual. ILO, Geneva. 518 p. Nr. 50-002.
32. MALOLETKOV, E.K., GORDEEV, L.F.: Organisation and technology of repairing building machinery. Moscow, Gosstrojizdat, 1962. 276 p. (in Russian).
33. NAUNOV, V.I., SIDOROV, N.G., KAHAROV, U.K.: Operation, technical servicing and repair of motor cars. Manual. Moscow, Masinostroyenie, 1965. 512 p. (in Russian).
34. Planned previous maintenance of building machinery. Budapest, Építésgazdasági és Szervezési Intézet, 1966. 83 p. (in Hungarian).

35. PRONIKOV, A.S.: Wear and durability of machine tools. Moscow, Mashgis, 1962. 320 p. (in Russian).
36. Successful electrical maintenance. New York, McGraw-Hill, 1969. 128 p.
37. SATRICEV, V.A.: Repair of motor cars. Moscow-Leningrad, Mashinostroenie, 1965. 614 p. (in Russian).
38. SRSEN, M. et alii: The organization of the repairing work in the light industry. Praha, Statni nakladatelstvi technické literatury, 1966. p. 10-13, 39-43, 56-93, 96-99. (in Czech).
39. REYNOLDS, P.A.: Maintenance of horticultural equipment. London, Allen and Unwin, 1968. 183 p.
40. SVERDEL, I.S., RUDAKOV, J.N.: Repair of electrical equipment in mineral dressing plants. Moscow, Nedra, 1967. 307 p. (in Russian).
41. TИHONOV, V.V.: System of planned preventive maintenance of pipe-line structures and equipment. Moscow, Nedra, 1966. 178 p. (in Russian).
42. VERESICHAK, E.P., ALELEVITCH, L.A.: Mechanical engineer's manual; projecting maintenance and repair workshops for motor cars. Moscow, Transport, 1966. 333 p. (in Russian).
43. WILKINSON, K.: Rewinding and repair of electric motors. Princeton, Van Nostrand, 1954. 208 p.
44. WILSON, C.L., OATES, S.A.: Corrosion and the maintenance engineer. New York, Hart Publ. Co., 1968. 196 p.



2. CURRENT PERIODICALS DEALING WITH MAINTENANCE AND REPAIR
45. ACHATS ET ENTRETIEN DU MATERIEL INDUSTRIEL  
Monthly, dealing with the efficient selection and buying of equipment, including maintenance technology.  
Publ.\* Les Nouvelles du Monde,  
8, rue de la Michodière, 75 - Paris 2<sup>e</sup>.
46. ANTI-CORROSION METHODS AND MATERIALS  
Monthly, dealing with corrosion control, prevention, engineering and research.  
Publ.: Brampain Press Ltd.  
The Tower, 229-243 Shepards Bush Road, Hammersmith,  
London, W.6.
47. CLEANING AND MAINTENANCE  
Official monthly of the British Institute of Cleaning Science including methods of maintaining and cleaning factory and office premises with regular guide to new equipment and products.  
Publ.: Wheatland Journals Ltd., 65/66 Turnmill Street,  
London, E.C.1.
48. CORROSION, TRAITEMENT, PROTECTION, FINITION  
Monthly, publishing papers and news on anti-corrosion measures to protect material and equipment.  
Publ.: Societé de productions documentaires (SOPRODOC),  
80, route de Saint-Cloud, Paris.  
92, Rueil-Malmaison, Paris.
49. CORROSION, PREVENTION AND CONTROL  
Monthly for engineers and technicians on how to prevent corrosion; dealing with systems and organizational methods on controlling corrosion.  
Publ.: Corrosion Prevention and Control,  
11A Gloucester Road, London, S.W.7.
50. DUN'S REVIEW AND MODERN INDUSTRY  
Monthly on business trends, developments and problems of industry including management of maintenance systems.  
Publ.: Dun + Bradstreet Publication,  
99 Church Street, New York, N.Y. 10008.
51. ELECTRICAL CONSTRUCTION AND MAINTENANCE  
Monthly, treating all aspects of electrical product trends and technical electrical practice. Reports on the design, installation and maintenance of a well integrated functional electrical system for engineers, contractors and plant men.  
Publ.: McGraw-Hill Inc.  
330 West 42nd Street, New York, N.Y. 10036.

52. ELECTRICAL CONTRACTOR AND MAINTENANCE SUPERVISOR OF CANADA  
Monthly, for contractors, consulting engineers, electrical maintenance supervisors and foremen. (Professionals may receive copies without charge.)  
Publ.: McLean-Hunter Publ. Co. Ltd.  
481 University Ave., Toronto, Ont., Canada.

FACTORY

See Modern Manufacturing.

53. FACTORY AND PLANT  
Monthly dealing with industrial management and production engineering including maintenance organisation and systems.  
Publ.: Tail Publishing Co., Pty. Ltd.  
415 Bourke St., Melbourne, Australia.
54. FACTORY MANAGEMENT  
Monthly, concerned with management of various industrial plants, including maintenance management problems.  
Publ.: Production Publications Ltd.  
Elm House, 10-16 Elm House, London, W.C.1.
55. IMI NEWSLETTER  
Monthly, containing reports of the International Maintenance Institute, Greenwich, Conn.  
Publ.: IMI  
P.O. Box 409, Greenwich, Conn. 06830.
56. INDUSTRIAL MAINTENANCE AND PLANT OPERATION  
Monthly on maintenance and operation of plant equipment, plant operating products, methods, buildings.  
Publ.: Ames Publishing Co.  
1. W. Olney Ave., Philadelphia, Pa. 19120.
57. IRON AND STEEL ENGINEER  
Monthly, disseminating world-wide, new and complete information relating to the design, construction, operation and maintenance of equipment, machinery and plants for the production and processing of iron and steel.  
Publ.: Association of Iron and Steel Engineers  
Empire Bld., Pittsburgh 22, USA.
58. MAINTENANCE  
Monthly on maintenance, modernisation and extension of plant facilities, buildings, grounds, moving, maintenance of production machines, equipment and systems.  
Publ.: Cleworth Publ. Co. Inc.  
One River Cos Cob, Conn. 06807, USA.
59. MAINTENANCE ENGINEERING  
Monthly on engineering methods and techniques of maintenance and repair in manufacturing industries, transport, building, construction, etc.  
Publ.: Factory Publications Ltd.  
89 Blackfriars Road, London. SE1.

60. MAINTENANCE NEWS  
Monthly, house organ of the Maintenance Co. Inc.  
Publ.:  
10-40 45th Av., Long Island City, N.Y.
61. MAINTENANCE SUPPLIES  
Monthly for distributors of maintenance equipment, cleaning materials, sanitary supplies. (Circulation restricted to distributors of maintenance equipment.)  
Publ.: McHair-Dorland Co. Inc.  
254 W. 31st St., New York, N.Y. 10001.
62. MATERIAL HANDLING ENGINEERING  
Monthly, covering the entire field of material handling including maintenance and repair of machinery and equipment.  
Publ.: Industrial Publishing Corp.  
812 Huron Rd., Cleveland 15, Ohio.
63. MATERIALS PROTECTION  
Monthly, concerned with all methods of protecting materials from environment. Includes coatings, electrical systems, economics, administration and safety of materials protection.  
Publ.: National Association of Corrosive Engineers  
M and M Bld., Houston 2, Texas, USA.
- MILL AND FACTORY  
See Plant Operation Management
64. MODERN MAINTENANCE MANAGEMENT  
Monthly on planning, managing and administering building maintenance and sanitation operations in industrial and institutional buildings. Covers cleaning programmes, training procedures.  
Publ.: Powell Magazines Inc.  
855 Ave. of the Americas, New York, N.Y. 10001.
65. MODERN MANUFACTURING  
Monthly, edited for manufacturing men in production, engineering, maintenance and plant management. Provides basic technical and operational help through evaluation of new equipment and trends.  
Publ.: McGraw-Hill Co., Inc.  
330 West 42nd St., New York, N.Y. 10036.
66. MODERN PLANT OPERATION AND MAINTENANCE  
Quarterly dealing with new plant procedures and equipment, especially for those responsible for plant operation and maintenance.  
Publ.: U.S. Industrial Publications, Inc.  
209 Dunn Ave., Stamford, Conn. 06905.
67. PLANT ADMINISTRATION AND ENGINEERING  
An industrial methods monthly for plant managers and plant engineers.  
Publ.: McLean-Hunter Publishing Co. Ltd.,  
481 University Ave., Toronto, Ont., Canada.

**68. PLANT ENGINEERING**

Monthly, presenting articles on plant equipment, its maintenance and improvement, and on organizational aspects of industrial plant management; of interest both to business and supervisory technical personnel.

Publ.: Technical Publishing Co. Inc.  
308 E. James St., Barrington, Ill, USA.

**69. PLANT ENGINEERING AND MAINTENANCE**

Monthly for engineers and technicians on plant and production equipment maintenance.

Publ.: McLaughlin Publishing Co.  
93 Rainside Rd., Don Mills, Ontario, Canada.

**70. PLANT OPERATING MANAGEMENT**

Monthly to satisfy interdisciplinary information needs of plant men in charge of manufacturing and maintenance, covering functional areas of electrical energy and equipment, mechanical power transmission, manufacturing production and operations, material handling and maintenance and plant service.

Publ.: Conover-Mast Publication Inc.  
205 East 42nd St., New York 10017, USA.

**71. REPARATUR UND KUNDENDIENST (REPAIR AND CUSTOMERS' SERVICE)**

Monthly on repairing techniques and servicing materials and equipment for maintenance purposes.

Publ.: Technic, Ing. E. Neubauer  
Schuppstr. 83. Pf 1600, 6200 Wiesbaden - Sonnenberg, FRG.

**72. REVUE TECHNIQUE DE L'ENTRETIEN ET DES TRAVAUX NEUFS**

Publ.: Entreprise moderne d'édition,  
7, rue Cauebon, 75 - Paris 1<sup>e</sup>.

**73. SAFETY MAINTENANCE**

Monthly, concerning industrial safety, fire protection, industrial hygiene, and sanitary maintenance.

Publ.: Alfred M. Best Co., Inc.  
Morristown, N.J., USA.

**74. STANKI I INSTRUMENT (MACHINE TOOLS AND TOOLS)**

Monthly, dealing with machine-tool and tooling equipment including maintenance in mechanical work-shops.

Publ.: Izd. Mashinostroenie  
ul 25-go Okt'yabrya, 10 Moscow K 12 USSR, Sovietunion.

**75. TECHNISCHE ÜBERWACHUNG (TECHNICAL SURVEY)**

Monthly on technical plant control and surveying methods including maintenance methods and preventive planning systems. With abstracts in English and French.

Publ.: VDI-Verlag GMBH  
Postfach 10250, 4 Düsseldorf, FRG.

76. WEAR-USURE-VERSCHLEISS

International bi-monthly on fundamentals of friction, lubrication, wear and their control in industry (text in English, French and German).

Publ.: Elsevier Publishing Co.  
Box 211, Amsterdam, W. Holland.

77. WERKSTATTECHNIK, ZEITSCHRIFT FÜR PRODUKTION UND BETRIEB (SHOP-PRACTICE)

Monthly on production methods and maintenance in machinshops, their organization and special requirements of maintaining a steady production flow.

Publ.: Springer-Verlag, 31 Heidelberg Platz, 3, Berlin. 175 Fifth Ave., New York, N.Y. 10010.

78. WHAT'S NEW IN PLANT ENGINEERING SERVICES

Bi-monthly covering plant and equipment maintenance, electrical services, plant utility services, buildings and grounds, fluids and material handling, and mechanical power transmission.

Publ.: Putman Publ.  
111 E. Delaware Place, Chicago, Ill. 60611, USA.

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82. ALTHOFF, P., MÜLLER, K.D., Das Problem der Reparaturkosten in den USA. = Chemische Industrie, Nr. 8. 1965 pp.296.
83. ANDERS, H.: Die Reparaturkosten sind teils fix, teils proportional. Maschine und Werkzeug, Nr. 13. 1965. pp.48.
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85. Are your maintenance costs in line? = Mill and Factory, Vol. 82, No. 1, 1968. pp.45-55.
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87. Automatic cleaning of PRSL diesel engines. = Railway Locomotives and Cars, Vol. 141, No. 2, 1967. pp.28-29.
88. Automating the paper mill's maintenance programme. = The Paper Industry, Vol. 43, No. 10, January 1962. pp. 708-709, 718.

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90. BECHT, C.: 1 - how to set up a working corrective maintenance programme. New ways to take the guesswork out of maintenance. = Mill and Factory, March 1966. pp.48-50.
91. BERGER, H.: Organisation and Aufwand der Instandhaltung im Chemiebetrieb. Ein Beitrag zur Rationalisierung. = Chemische Technik, Vol. 8, 1966. pp.512-519.
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93. BOND, V.C.: Training builds maintenance crew at Phoenix cable plant. = Plant Engineering, 8 August 1968. pp.90-91.
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95. BROADWELL, M.M.: Developing the maintenance supervisor as a trainer. = Plant Engineering, 13 June, 1968, pp.95-97.
96. BROADWELL, M.M.: Planning; key to successful maintenance training. = Plant Engineering, 14 April 1968. pp.107-109.
97. BROWER, M.W.: Developing the maintenance function; the influence of operators on maintenance function; the influence of operators on maintenance productivity. = American Paper Industry, April 1968. pp.42+.
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100. BYRNE, V.M.: How to start a preventive maintenance programme? = Factory, October 1961, pp. 236-244.
101. CAMERON, A.: Here's how reorganization of maintenance utilities saved \$74 000. = Mill and Factory, Vol. 28, No. 6, 1966. pp.43-45.
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103. Care and maintenance of calendar stacks and rolls. = Paper Trade Journal, Vol. 147, No. 51, 23 December 1963, pp. 32-33.
104. CAMERON, B.: Organising and controlling maintenance during mill shutdowns. = Paper Trade Journal, Vol. 148, No. 18, 4 May 1964. pp. 38-41.
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108. CARSON, R., LAGNEY, J.: Maintenance labour standards can be established = Plant Engineering, April 4, 1966. pp.87-89.
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138. BUCHELOU, N.A., BURDETTE, H.M. et al.: A company-wide long-range programme of installing a standard maintenance procedure for all its mills. = *Paper Mill News* Vol. 89, No. 35, 27 August 1962. pp.22-26.
139. L'entretien et la réparation. = *Usine Nouvelle*, vol. 23, no. 51, 21 December 1967. pp.112-113.
140. De l'entretien à la maintenance industrielle. = *Travail et Méthodes*, no. 226, decembre 1967. pp.7-12.
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**3. REPORTS, DISSERTATIONS AND CONFERENCE PAPERS**

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286. **Repair and maintenance of machine tools in developing countries.**  
UN 5th Session 15 March 1965, Committee for Industrial Development.  
39 p. (E/C.5/68 mim.)

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**Food and Agricultural Organisation\*\***

289. **Forestry and Forest Products Div. - Forest product processing; working paper on mobile unit for sawmill improvement and maintenance and repair.** 5 p. (02392-68-WS).

290. **Ghana - report on survey of the Lower Volta river flood plain vol. 3, agronomic considerations.**

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\*\* Requests for FAO documents should quote, besides author and title, also the accession numbers and symbols given in parenthesis after the titles. Requests for documents should be sent to: FAO Documentation Center, Via delle Terme di Caracalla, 00100, Rome, Italy.

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First and second EPTA Project report on forest utilization, spec. maintenance and repair of sawing equipment. Vol. 1 of 2, 9 p., 3 app. (50367-55-MR) (51237-60-MR).

310. BOROWICKA, H.: Iran - Design of irrigation projects. Report to the Government. 1956.

Water management EPTA Project report on engineering design of irrigation projects in Iran. Study of planning operational management and construction of 3 irrigation projects. Data on maintenance and repair, canal lining, hydraulic engineering and operational costs of Pampoor canal. 82 p., 7 tab., 17 phot., 1 app. (50800-58-MR).

311. The irrigation network of Dachte Moghan.

Expert report 1956 on hydraulic engineering of hydrological network in Iran. Recommendations on maintenance and repair of canals, irrigation and drainage systems, cost analysis. 135 p., 17 tab., 1 graph, 26 plans, etc. (61560-56-MR).

312. GARNER, J.K.: Pakistan - Organization, operation and maintenance of farm machinery. Report to the Government. 1954.

EPTA Project report on organizing maintenance and repair of farm machinery in Pakistan. Agricultural mechanization of Pakistan stressing need for school of tractor technology and operational costs. Chart showing types of staff required, basic workshop equipment and spare parts. 53 p., 6 app. with 2 org. charts, 3 forms. (50272-54-MR).

313. EYLANDS, A.E.: Pakistan - Management, operation and maintenance of earthmoving and construction machinery in West Pakistan. Report to the Government. 1957.
- EPTA Project report on handling operation, maintenance and repair of construction and earthmoving machinery in West Pakistan. Review of tractors, trucks and other machine tools available for construction of Baran Dam and water management project infrastructures. Notes on equipment cost and payment, machinery, housing and maintenance and required training of operating staff. 23 p., 1 tab., 1 org. chart. (50673-57-MR).
314. WYLIE, G.E.: Pakistan - Agricultural mechanization. Report to the Government. 1957.
- EPTA Project report on agricultural mechanization in West Pakistan and training of operating staff in establishing machinery, maintenance and repair workshops. 15 p., 1 org. chart. (50635-57-MR).
315. GARRARD, N.M.: - West Pakistan - Use of agricultural and land development machinery. Report to the Government. 1957.
- EPTA Project report on use of land reclamation equipment and agricultural machinery. Recommended training of operating staff and maintenance and repair of machinery. 19 p., 2 org. charts. (50649-57-MR).
316. VENABLES, P.J.: East Pakistan - Agricultural mechanization in East Pakistan. Report to the Government. 1956.
- EPTA Project report on agricultural mechanization in East Pakistan. Requirements for further agricultural machinery development incl. maintenance and repair workshops. 23 p., 1 org. chart. (50950-58-MR).
317. RANPOLDI, E.: Saudi Arabia - Land and water surveys on the Wadi Jisan, Vol. 1, general report, app. 1, activities carried out. 1965. Vol. 1 of 7, appendix 2 - 24 p.
- Agricultural development UNRRA SP project, Saudi Arabia. Brief review of field work, drilling equipment and hydrologic instruments. Detailed review of transportation facilities; maintenance and repair of vehicles. (61672-65-MR).
318. HABLJETZEL, H.: Saudi Arabia - Farm mechanization problems and services. Report to the Government. 1963.
- EPTA Project report on agricultural mechanization and farm machinery in Saudi Arabia. Maintenance and repair of government farm machinery, spare part supply, farm equipment selection and training of personnel. 26 p., 7 ref., 2 app. (51611-63-MR).
319. FRAEDRICH, K.: Thailand - Development of the Thai plywood factory. Report to the Government. 1961.
- EPTA Project report on development of plywood factory equipment and wood processing. Appendix on maintenance and repair of equipment. 19 p., 3 app. with 2 tab., 16 fig. (51375-61-MR).

320. Land and Water Development Div. - Report on the Near East Regional Training Centre on farm mechanisation, land development and workshop problems. Egypt, 17 Sept. - 24 Oct. 1956.

EPTA Project report on farm management, agricultural engineering, etc. Review of agricultural training and demonstration courses subjects i.a. farm implements and agricultural machinery, its maintenance and repair. 16 p. (5061-57-MR).

321. Land and Water Development Div. - South American Regional Development Centre on the problems of the choice, utilisation and maintenance of agricultural and land reclamation machinery. Chile, 24 Feb. - 27 March 1956.

EPTA Project report on choice, utilisation and maintenance and repair of agricultural machinery used in land reclamation, for South American Development Center. 125 p., indexes with 23 tab., 1 map, 1 org. chart, 2 pp. (5072-59-MR).

322. SCOTT, C.W.: Bolivia - Production and grading of mahogany and other woods for export. Report to the Government. 1960.

EPTA Project report on wood grading and mahogany woods for export. Training in sawing equipment, maintenance and repair. 40 p., 1 map, 4 app. (51241-60-MR).

323. STENSTROM, I.: Chile - Farm mechanisation and study of the present situation in the country. Report to the Government. 1959.

EPTA Project report on agricultural mechanisation in Chile. National production of farm machinery, maintenance and repair service, cooperative and machinery pool. Economic analysis of agricultural mechanisation. 7 p., 2 tab., 2 graphs, 2 app. with 15 tab. (51069-59-MR).

324. Paraguay - Timber industries. Report to the Government. 1957.

EPTA Project report on forestry industry in Paraguay. Present situation and suggestions for improvement of work using industry spec. sawmilling industry, sawing equipment, mechanisation, maintenance and repair. 25 p., 1 tab. (5057-57-MR).

325. DEJMANIS, R.J.: Peru - Sawmilling industry. Report to the Government. 1961.

EPTA Project report on forestry industry spec. sawmilling industry in Peru. Sawmill and sawing equipment, loading equipment including maintenance and repair. 42 p., 12 tab. (51229-61-MR).

326. COCHRANE, R.H.: Uruguay - Forestry machinery, equipment supply and mechanisation of the sector. Report to the Government. 1962.

EPTA Project report on agricultural mechanisation and farm machinery supply in Uruguay. Cost analysis of farm implements and machine tools spec. operation and maintenance and repair costs. Recommended technical education and training. 13 p., 2 app. (51544-62-MR).

International Labour Office

327. Interim report to the Government of the Syrian Arab Republic on the development of accelerated training (automobile mechanic section). Geneva, 1966. 23 p. (ILO, Syria/R.5 58-001).
328. Maintenance and repair of motor vehicles: a practical instructor manual. Geneva, 1966. 52 p.
329. Report to the Government of Algeria on motor vehicle maintenance and repair. Geneva, 1966. 26 p. (ILO, Algeria/R.2 52-001)

the Clearinghouse

Clearinghouse for Federal Scientific and Technical Information, Springfield

330. Literature survey of corrosion prevention in idle boilers. A.H. Wirburger, U.S. Army Marine Engineering Lab., Camp Pendleton, Calif., April 66, 67. (AD-64211).  
A survey conducted to gain insight into the possibility of finding a chemical additive that will prevent corrosion in idle boilers yet still allow them to be returned to operation without first requiring draining. Mechanisms of corrosion and the important factors which affect boiler corrosion are discussed. (AD-64211).
331. Maintainability engineering guide. 1967. (AD-471 57).
332. Reliability and maintainability data-source guide. 1967. (AD-659 195).
333. Maintainability engineering. 1967. (AD-471 57).
334. Plant and equipment maintenance machines apparatus and products in Italy. 1967. (PB-170 960).
335. Automotive service and repair equipment in Sweden. 1967. (PB-170 945).
336. Optimum utilization and selection of covers for highway right of ways. 1967. (PB-169 414).
337. Automotive maintenance equipment in Thailand. 1967. (PB-174 705).
338. The development of training programs for first onistment repairmen. I. How to define training objectives. 1967. (AD-634 490).
339. A job development program in the home and apartment maintenance industry, a business opportunity. 1967. (PB-174 046).
340. Maintenance data collection and unified control information systems: a case study. 1967. (AD-641 994).

• Reports can be ordered at the Clearinghouse for Federal Scientific and Technical Information, U.S. Department of Commerce, National Bureau of Standards, Springfield, Virginia, 22151, at nominal cost, either in printed form or microfilm, quoting besides author and title, the sales numbers given in parenthesis after the title.

141. Human factors aspects in maintainability. 1967. (AD-604 513).
142. Economic considerations in establishing an overhaul cycle for ships: an empirical analysis. 1967. (PB-624 744).
143. An investigation of asphalt cement subsealing and lime cement jacking. 1967. (PB-166 121).
144. Sheet metal, structural iron and welding handbook. Engineered performance standards public works maintenance. 1967. (PB-168 981).
145. Sheet metal, structural iron and welding formulas. Engineered performance standards public works maintenance. 1967. (PB-168 982).
146. Repair versus replacement. A study of equipment maintenance. 1967. (AD-656 433).
147. Automotive service and maintenance equipment in Japan. 1967. (PB-174 544).
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158. Plant management. New York, 43 p. (MTA 2176).

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359. Maintenance cost control. New York, 52p. (MTA 2169).
360. Reducing maintenance costs. New York, 30 p. (MTA 2170).
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416. The Proceedings of the 10th Annual Industrial Engineering Conference 1959. Measuring and controlling maintenance costs (R.I. REUL) Morgantown, West Virginia University, Technical Bulletin No. 54 1969 pp.12-21.
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418. Les traitements de surface contre l'usure. Description et applications industrielles. Journées d'étude. Lyon, 25-26 mai 1967. Paris, Dunod, 1968. XXIV, 397 p. (Ecole Centrale Lyonnaise. Centre de Recherches mécaniques hydromécanique et frottement).
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#### 4. FILMS ON MAINTENANCE

Practical implementation of maintenance and repair depends on the widespread distribution of existing experience and effective dissemination of successful methods and techniques. The means of audio-visual aids, especially films as tools for training and retraining, teaching and education are particularly suitable to achieve this goal.

The technical films selected in the list below have been chosen according to the requirements of developing countries. They might be used for display, for training, for continuation training etc. keeping in mind the actual needs in a given developing country. The exhaustive annotations may facilitate the further, proper selection.

The listed films have been selected from the following two major catalogues:

1. OECD Catalogue of Technical and Scientific Films.  
2nd ed. International Film Reference Library of  
the OECD (OCDE). Paris, 1968 XXVII, 419 p. (OECD numbers)
2. Films for Industry. A catalogue of 16 mm. films for  
industrial users including a film strip section. London,  
Central Film Library, Central Office of Information,  
1968-1969. 222 p. (UK numbers and V)

As to how to borrow films (prints) for either preview or purchase, the interested persons from the developing countries should send their requests

- (a) in the case of OECD library numbered films to the:

OECD Film Library, 2 rue André Pascal  
Paris 16<sup>e</sup>  
(Fr-, OECD)

or

- (b) in the case of Central Film Library - films to the

Central Film Library, Central Office of Information,  
London, S.E.1. Hercules Road (Fr-, UK)

quoting in their requests both the film and the library number of the film.\*

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\* The following conventional abbreviations are used:

bw	black and white	S:	Seconds
col	colour	Sd:	Sound
mins.	running time	Sp:	Sponsor
Prod.	Producer	Dist:	Distributor

- 420. ALUMINIUM WELDING**  
(Le soudage de l'aluminium)  
16 mm sd col - 28 min.  
Origin: France, 1965  
Prod: Les Films du Centaure, 10-rue du Château,  
La Garenne-Colombes (Seine)  
Sp: L'Aluminium Français, 21, rue Balsec, Paris  
Dist: L'Aluminium Français

Detailed description of various techniques employed  
in the welding of aluminium parts.

OECD No. 2993/7959

- 421. ARC WELDING AT WORK**  
16 mm sd col - 26 min.  
Origin: USA, 1948  
Sp: General Electric Company  
Dist: General Electric Company

This film defines and generally describes the use of  
(1) Metal arc welding (2) atomic hydrogen welding  
and (3) inert-gas arc welding.

OECD No. FOA/5147

- 422. THE ART OF SOFT SOLDERING**  
16 mm sd col - 13 min.  
Origin: USA, 1956  
Prod: Precision Film Laboratories, 21 West 46th St., New York.  
Sp: International Business Machines Corporation, Manufacturing  
Division, Poughkeepsie  
Dist: International Business Machines Corporation, Dept. of  
Information, Film and Television Activities, 590 Madison  
Avenue, New York 22, N.Y.

A training film which indicates the basic steps in soft  
soldering. "Close-ups" show the soldering of various  
types of electronic connections, action of flux, melting  
and cooling of solder, preparation of soldering equipment.

OECD No. 10690/6602

- 423. ASSEMBLING IN A JIG**  
(Drilling and Riveting)  
16 mm sd bw - 20 min.  
Origin: USA, 1943  
Sp: United States Office of Education, Washington 25, D.C.  
Dist: United World Films, Inc., 1445, Park Avenue, New York 29, N.Y.

How to drill the pilot holes in a skin assembled in a jig.  
It is wise to follow a pattern to eliminate waste motion and  
assure drilling holes. How to redrill holes to full rivet  
size, again using a pattern. Numbering of the parts of the  
assembly. Then the skin can be removed to drill inner  
structure. How all drilled holes must be burred and cleaned.  
Parts are tied together to prevent misplacing. Dimpling  
of material in which flush-type rivets are to be used.  
Necessity for identifying each number on a part. Assembling  
of the parts in the jig. Actual riveting of the pattern.  
Inspection of each riveted piece.

OECD No. 10074/FOA 523

**424. ADVANTAGES OF AC WELDING**

16 mm sd col - 15 min.

Origin: USA, 1950

Sp: Westinghouse Electric Corporation, Film Division,  
3 Gateway Center, Pittsburgh 30, Pennsylvania.

Dist: Westinghouse Electric Corporation

The film shows briefly the effectiveness of AC welding of mild steel, cast iron, stainless steels, and alloy steels. Emphasis is placed on the versatility of AC welding for vertical, overhead and horizontal welding, for light and heavy gauge steel, and for inside and outside construction. Shows how AC welding eliminates virtually all arc blows. A few printed captions appear in the film explaining the many advantages of AC welding. The speeds of AC and DC welding are compared, and the speed of AC welding is shown to be superior. The higher quality of welding that results from the AC method is pointed out in the film by both regular and slow motion. The ease and economy of operation and the minimum maintenance costs of AC equipment as compared to DC equipment are clearly depicted in this film.

OECD No.FOA/5082

**425. BASIC PRINCIPLES OF LUBRICATION**

16 mm sd bw - 25 min.

Origin: USA, 1945

Prod: Caravel Films, Inc. 730, Fifth Avenue, New York, N.Y. 10019

Sp: General Motors Corporation, Department of Public Relations,  
Film Distribution Section, Detroit 2, Michigan

Dist: General Motors Corporation

Animated diagrams show how the outer layers of tiny oil globules adhere to the metal surfaces. Lubricating oils differ in viscosity and the choice is determined by weather and temperature factors. Explains the following important functions of lubrication; to reduce friction in order to increase efficiency; to cool power in the cylinder and to prevent contamination and deterioration of engine parts.

OECD No.10139/FOA 441

**426. BETTER MAINTENANCE WELDING WITH EUTECTIC**

16 mm sd - 20 min. (1965)

Eutectic Welding Alloys Corporation

This film in full colour, describes the process of surface alloying and indicates how research has helped the welder by providing the special alloys so necessary to modern industry. The various methods are shown, together with the latest welding processes, torch alloys and electrodes.

From: Educators Guide  
to Free Films.

427. BUILT FOR THE JOB  
16 mm sd bw - 11 min.  
Origin: United Kingdom, 1951  
Prod: Trident Films Ltd., 9 Wetheravon Rd., Chiswick, London, U.K.  
Sp: Shell International Petroleum Co. Ltd., Shell Centre, London, S.W.  
Dist: Shell International Petroleum Co. Ltd.

The "tailor making" of lubrication to meet special conditions, such as intense heat or cold, under water work, pressure, abrasive dust, intense vibration, etc.

ORCD No. 2506/7125

428. BURDING BLADES  
16 mm sd col - 29 min.  
Origin: USA, 1960  
Prod: Air Reduction Sales Company, 150 East 42nd Street, New York 17,  
Sp: Air Reduction Sales Company NY  
Dist: Air Reduction Sales Company

The film illustrates, by use of live and animated sequences, construction, working principles and operation of several types of gas cutting machines used in the shaping, forming, cutting and trimming of metal parts. The oxygen torches, in some instances positioned and guided by remote control, overcome considerable barriers of thickness and size. These tools use up to eight torches at one time for a variety of shapes, contours and levels. Radiograph, Oxygraph, Monograph and Travograph, cutting with several types of tracers (manual, mechanical, magnetic, electronic) demonstrate that this method of cutting can be adapted to the most complex design.

ORCD No. 11100/7424

429. CARE AND MAINTENANCE OF BUILDING PLANT  
16 mm sd bw - 13 min.  
Origin: United Kingdom, 1945  
Sp: Ministry of Works, London  
Dist: Ministry of Works

This film illustrates how a little time spent on the routine maintenance of building machinery and equipment can prevent time and money being wasted on breakdowns requiring premature complete overhauls.

ORCD No. F04/5296  
UK 1238

430. CARE AND MAINTENANCE OF ROPES: I. STEEL WIRE AND CORDAGE  
INTRODUCTION  
2 reels 18 mins  
War Office - World Wide, 1945

Preventive care and maintenance applicable to both wire rope and cordage. Of value to traffic departments and to all concerned with the use of ropes in materials handling.

UK 1535



431. **CARE AND MAINTENANCE OF ROPES: III. CORDAGE**  
2 reels 18 mins  
War Office - World Wide, 1945  
The nature, lay and types of construction of cordage in common use, with details of practical and sensible handling. Of value to traffic departments and to all concerned with the use of rope in material handling.  
UK 1587
432. **CARE OF A TRACTOR**  
(Farm Work Series - Equipment Maintenance)  
16 mm sd. bw - 22 min.  
Origin: USA, 1944  
Sp: United States Office of Education, Washington 25, D.C.  
Dist: United States Office of Education  
Film show in detail the process of lubricating a tractor.  
OECD No.FOA/5078
433. **CHEMISTRY REPAIRING**  
2 reels - 555 metres  
A black and white popular science film  
(Kuibyshev Newsreel Studio)  
Polymers are forging their way powerfully into all fields of life. At present they have been made to serve in the repairs and maintenance of farm machines. Applying chemistry for this machine is economically efficient. (From catalogue 4. To be asked for at Sovexport film. Moscow, USSR)  
SOVEXPORTFILM,  
Moscow, USSR
434. **1000 CHIPS**  
3 reels 30 mins  
Warner and Swasey, USA  
A comprehensive technical training film on the proper selection, use and maintenance of cutting tools. The different cutter requirements for mild steel, cast iron and brass are demonstrated by slow-motion magnified photography.  
V1000
435. **THE CRANE DRIVER**  
(Le Grutier)  
16 mm sd. col - 34 min.  
Origin: France 1964  
Prod: Je vois tout, 10, rue du Château, La Garenne-Colombes  
Sp: OPPBTP Paris  
Dist: OPPBTP Paris.  
Film instructs crane drivers to pay ultimate attention to the proper maintenance and correct manipulation of their cranes and hoisting equipment. Emphasis is put on safety rules for tower crane operators.  
OECD No.2971

436. DIESEL LUBRICATION AND COOLING SYSTEMS

16 mm sd. bw - 9 min.

Origin: English, 1942

Prod: Audio Productions, USA

Dist: United World Films, Inc., USA (for sales or loan)

Parts of diesel lubricating and cooling systems and how they work in relation to each other are shown using a combination of diagrams, animation and straight photography.

FAO 571

437. DIMPLING AND COUNTERSINKING

16 mm sd. bw - 21 min.

Origin: USA, 1944

Prod: The Jam Handy Organization, 2821 East, Grand Boulevard, Detroit 11, Michigan

Sp: United States Office of Education, Washington 25, DC.

Dist: United World Films, Inc., 1445, Park Avenue, New York, N.Y. 10029

Defines dimpling with close-up of an example. Shows checking drawing and reference book for specification of size and angle of dimple. Close-up shows insertion of rivet in anvil and plunger, adjustment of anvil, and making of trial dimples until rivet head is flush with the surface of sheet metal. Demonstrates method of holding workpiece while dimpling. Reviews operating steps in dimpling thin material. Defines machine countersinking by means of cross-section drawing. Shows selecting and installing proper countersink in hand drill chuck, adjusting depth stop, and making test on scrap metal.

OECD No. 10193/FOA 647

438. DROPS OF DANGER

16 mm sd. bw - 10 min.

Origin: United Kingdom, 1945

Sp: ESSO Petroleum Company, Ltd., London

Dist: ESSO Petroleum Company, Ltd.

Shows some of the symptoms of inefficient tractor operation. A case history is taken as an example. On receipt of the

farmer's claim that his tractor is not working efficiently although not exhibiting any obvious mechanical defects, an analyst is sent from the company office. He observes symptoms, takes samples of the fuel oil and lubricating oil and reports back that the tractor is not being allowed sufficient warm-up time.

OECD No.FOA/5304

**439. THE EASIER WAY**

16 mm sd. bw - 11 min.

Origin: USA, 1947

Sp: General Motors Corporation, General Motors Building,  
Detroit 2, Michigan

Dist: General Motors Corporation

This film demonstrates that any operation can be reduced to its lowest terms in energy and time expenditure by resolving the sequence of the steps and by convenient placing of the working materials. It gives a convincing treatment of economies which can be effected by time-and-motion studies.

OECD No.FOA/5144

**440. ECONOMY - No.1 WORK IN THE GARAGE**

(Ergonomie - No.1. Travaux de Garage)

(also in Dutch)

16 mm sd bw - 6 min.

Origin: Belgium 1962

Prod: Office Belge pour l'Accroissement de la Productivité,  
60 rue de la Concorde Bruxelles 5.

Sp: Office Belge pour l'Accroissement de la Productivité

Dist: Office Belge pour l'Accroissement de la Productivité.

A simple films record of "do's" and "don'ts" in car maintenance in garages. Layout of controls, the carrying of tools, suspension of power tools, time and effort in service station work are demonstrated.

OECD No.2802/7687

**441. INSTALLATION AND MAINTENANCE OF ANTI-FRICTION BEARINGS**

(Einbau und Wartung der Walzlager)

16 mm sd bw - 23 min.

Origin: Fed. Rep. of Germany, 1952

Prod: Commerz Film AG, Berlin W 30

Sp: Kugelfischer Georg Schäfer and Co., Schweinfurt

Dist: Kugelfischer Georg Schäfer and Co.

The film gives a review of the procedure to be followed in the installation of anti-friction bearings from the smallest to the largest sizes.

OECD No.1702/FOA 5627

**442. FACE PLANING UNEVEN SURFACES**

(Operations on the Jointer)

16 mm sd bw - 14 min.

Origin: USA, 1945

Sp: United States Office of Education, Washington 25, D.C.

Dist: United World Films, Inc., 1445, Park Avenue, New York 29, N.Y.

The film indicates that the stock must be checked to determine if it is crooked, warped or twisted, before face planing uneven surfaces. The knives of the cutterhead and the plane guards must be properly checked and adjusted. The film shows how to measure the stock and set the infeed table to make the desired cut. The following types of face planing are depicted: the making of several cuts.

OECD No.10149/FOA 488

**443. FARM MACHINERY MAINTENANCE**

16 mm col. sd - 11 mins

Origin: English, 1959

Prod. and Dist: Australian Commonwealth Film Unit (for sale or loan)

Every machine has its special maintenance needs, and it is important to get an operator's manual and have maintenance points explained when buying a new farm machine. General maintenance advice for continuous good service is outlined; become familiar with your machinery, keep track of spare parts, use grease, oil and paint where and when needed, keep machinery under cover when not in use, and do off-season maintenance.

FAO 362

**444. FARM TRACTOR SAFETY - A FAMILY AFFAIR**

16 mm col sd - 22 mins

Origin: English

Prod. and Dist: American Petroleum Institute, USA (for sale or loan) for non-commercial use.

Of the alarming number of farm accidents reported each year, many involve machinery, and specifically tractors. This film shows how one farming community began a safety programme involving the entire family. Sequences show the causes and results of tractor accidents and how to avoid them. It is emphasized that the most effective means of avoiding accidents is the proper mental attitude of the tractor operator.

FAO 362/A

**445. FITTING AND SCRAPING SMALL BEARINGS**

(Bench Work)

16 mm sd bw - 20 min.

Origin: USA, 1943

Sp: United States Office of Education, Washington 25, D.C.

Dist: United States Office of Education.

This film shows a method of fitting and scraping small bearings of the split and solid type. It illustrates bearings with the main bearings of an automobile engine. It explains in animation the three requirements of bearings and pictures the types of scrapers used for scraping bearings. It shows method of locating high spots in split bearings with a shaft coated with Prussian blue.

OECD No.FOA/614

446. **FRONTIERS OF FRICTION**  
16 mm sd bw - 21 min.  
Origin: United Kingdom, 1961  
Prod: Shell Film Unit  
Sp: Shell International Petroleum Co., Ltd., No.1 Kingsway,  
London, W.C.2.  
Dist: Shell International Petroleum Company Ltd.

Analysis of the phenomena of friction. Role of lubricants and their various types. Examples of research to develop new lubricants adapted to various environments: lubricating at high temperatures, in vacuum and rocket technology, in radiation environments etc. Principles of gas lubrication.

OECD No.SC 176

447. **GREASE**  
(Les Graisses)  
16 mm sd bw - 27 min.  
Origin: United Kingdom, 1951  
Prod: The Merlin Film Company, Ltd., Clopham Park Studios,  
London, S.W.4  
Sp: Shell International Petroleum Company Ltd., Shell Centre,  
London, S.E.1  
Dist: Shell International Petroleum Co. Ltd.

The film shows the manufacturing of ball and roller bearings and discusses the various lubricants devised for different tasks and different climatic conditions.

OECD No. 2503/7122

448. **GRINDING SINGLE POINT CARBIDE TOOLS**  
16 mm sd bw - 25 min.  
Origin: USA, 1945  
Sp: United States Office of Education, Washington 25, D.C.  
Dist: United World Films, Inc., 1445, Park Avenue, New York 29, N.Y.

Pictures a cutting tool in operation. Narrator describes how the cutting edges must be sharpened to do a specific job. Compares the cutting of sharp and dull tools. Pictures how to semi-finish grind a dull tool. Shows how to dress a grinding wheel. Pictures a procedure for finish-grinding a tool. Shows the procedure for sharpening a badly chipped tool. Shows rough grinding, semi-finish grinding and finish grinding. Pictures the process for sharpening a tool for cutting steel. Shows the finish grind of the tool.

OECD No.10103/FOA 585

449. **GRINDING WHEEL SAFETY**  
16 mm sd bw - 21 min.  
Origin: USA, 1945  
Sp: Norton Company, Worcester 6, Massachusetts  
Dist: Norton Company

The film illustrates the common causes of grinding wheel breakage and the use of proper guarding.

OECD No.FOA/1432

450. **GROUP TRAINING**  
16 mm sd bw - 23 min.  
Origin: United Kingdom 1966  
Prod: World Wide Pictures Ltd., 34 Cursitor Street,  
London E.C.4  
Sp: British Productivity Council, Queen Street Place, London E.C.4  
Dist: British Productivity Council

The film illustrates the advantages of small and medium sized companies pooling their resources to provide better and more comprehensive training for apprentices. Besides explaining the principles of group training, it also provides information about how schemes are organised, administered and financed.

OECD No.3027/8029

451. **HAND-SOLDERED JOINTS IN ELECTRONICS**  
1 reel - 8 mins.  
Mullard, 1967  
Colour

A training film which shows by close-ups and in slow-motion how to make good soldered joints and how to avoid making bad ones. Tag and wire examples are used throughout, but the techniques shown apply as well to other types of electrical joint. For apprentices, operatives and supervisors.

UK 1863

452. **THE HIDDEN POWER**  
(also in German, Danish, Norwegian, Swedish and Dutch)  
16 mm sd bw - 20 min.  
Origin: United Kingdom, 1960  
Prod: Derek Stewart Productions Ltd., 6 Westbourne News,  
London, W.11  
Sp: The British Petroleum Company Ltd., Britannic House,  
Finsbury Circus, London E.C.2  
Dist: The British Petroleum Company Ltd.

In almost any mechanical transmission system, efficiency and power are lost due to friction. Friction is overcome by lubrication. A thin layer of oil takes a great part of the load in many machines. Oils must be designed for specific jobs. Testing of the breakdown point of oil film. Extreme pressure oils. Oxidisation of turbine oils. Special qualities of hydraulic oils. Heat transfer in cutting oils. Special non-splash oils. Test-loading of grease. Emphasis on friction as a source of waste.

OECD No.2726/7527

453. **HIGH-FREQUENCY SOLDERING**  
(Accessory Assembly - Tools and Procedures)  
16 mm sd bw - 17 min.  
Origin: USA, 1944  
Sp: United States Office of Education, Washington 25 D.C.  
Dist: United States Office of Education.

This film explains the function of a high frequency circuit and shows how to adjust the converter and

how to prepare the work pieces.

OECD No.FOA/663

454. **IF ROPES COULD TALK**  
16 mm sd col - 21 min.  
Origin: United Kingdom, 1960  
Prod: Verity Film Ltd., Build House, Upper St. Martin's Lane,  
London, W.C.2  
Sp: British Ropes Ltd., Carr Hill, Doncaster, York.  
Dist: British Ropes Ltd.

Sequences on rope production, selection of the correct type for the job, handling, storage and faults in use, together with hints on how to avoid trouble through correct maintenance.

OECD No.2898/7814

455. **INDUSTRIAL METAL SPRAYING**  
2 reels Free 20 mins  
Metallisation  
Turners, 1965  
Colour

The process of metal spraying by the electric-arc pistol, and its applications in modern industry. After illustrating conventional uses for anti-corrosive and heat-resistant coatings, and for the reclamation of worn parts, the film shows modern developments in the hardfacing of slideways and rolls, and the manufacture of moulds, electrical and electronic devices. For engineers, operatives and students.

UK 2274

456. **THE INSIDE OF ARC WELDING - 1. FUNDAMENTALS**  
16 mm sd col - 8 min.  
Origin: USA, 1942  
Sp: General Electric Company, Visual Education Division,  
Schenectady 5, N.Y.  
Dist: General Electric Company.

This film describes the four fundamentals of arc welding as: the correct current setting, the correct angle of the electrode, the correct length of the arc, and the correct speed of travel. It emphasizes the importance of wearing proper clothing, using adequate face protection, and special protection for the eyes. How to strike the arc is demonstrated. How to recognize correct welding is explained. Points out that a sharp frying sound will accompany proper operation. The appearance of the weld should be a uniform smooth bead with ripples, but no under or over cuts. Results of the wrong current setting, the wrong angle of the electrode, the wrong length of arc, and the wrong speed of travel and explained and corrections demonstrated.

OECD No.FOA/527

457. **THE INSIDE OF ARC WELDING - 2. FLAT POSITION**  
16 mm sd col - 8 min.  
Origin: USA, 1942  
Sp: General Electric Company, Visual Education Division,  
Schenectady 5, N.Y.  
Dist: General Electric Company.

This film explains how to maintain the correct setting of current, the correct angle of the electrode, the correct length of the arc, and the correct speed of travel in welding materials in the flat position. How to make welds of the proper size and shape are clearly illustrated. How to fillet a weld and how to groove a weld are demonstrated. Changes in angle of electrode to control arc blow are illustrated. Dangers of using too short an arc are pictures. Results of uneven speed of travel, too slow and too fast travel are shown. Close-up shots show a correct weld, which has good fusion and is uniformly flat throughout the face.

OECD No.FOA/528

458. THE INSIDE OF ARC WELDING - 3. HORIZONTAL POSITION

16 mm sd col - 9 min.

Origin: USA, 1942

Sp: General Electric Company, Visual Education Division,  
Schenectady 5, N.Y.

Dist: General Electric Company.

This film explains how to maintain the correct setting of current, the correct angle of the electrode, the correct length of the arc, and the correct speed of travel in welding materials in the horizontal position. The importance of maintaining the control of the molten pool is based on these four things. The film explains results if the current setting is too low or too high. How to control the angle of the electrode is demonstrated in order to control the arc blow. The film explains results if the arc is too long or too short. The importance of the speed of travel in welding is demonstrated. Close-ups of both groove welds and fillet welds are shown and explained.

OECD No.FOA/530

459. THE INSIDE OF ARC WELDING -- 4. USE OF ALTERNATING CURRENT

16 mm sd col - 10 min.

Origin: USA, 1942

Sp: General Electric Company, Visual Education Division,  
Schenectady 5, N.Y.

Dist: General Electric Company.

The advantages of using alternating current in arc welding are shown and explained in this film. Welding in the flat position and in the horizontal position are demonstrated. Examples of correct welds are shown and described. It is explained that the four basic principles of welding are as essential in alternating current welding as they are in direct current welding. Results of the wrong way of applying each of these four basic principles are shown and described and corrections suggested. The main advantages of using alternating current are enumerated. The fact that larger electrodes can be used is explained.

OECD No.FOA/531



460.

**THE INSIDE OF ARC WELDING - 5. VERTICAL POSITION**

16 mm sd col - 10 min.

Origin: USA, 1942

Sp: General Electric Company, Visual Education Division,  
Schenectady 5, N.Y.

Dist: General Electric Company

This film shows arc welding being done in the vertical position. Demonstrations are given in welding of both grooves and fillets. The limits of the angles of grooves are given. The size of electrodes to be used in fillet welds are explained, their size being determined by the thickness of the plate to be welded and the current setting. The results of changing the angle of the electrode are demonstrated. The results of using too short or too long an arc are shown. The results of using too high and too low current settings are explained. The results of travelling too slow or too fast are illustrated.

OECD No.FOA/532-

461.

**THE INSIDE OF ARC WELDING - 6. OVERHEAD POSITION**

16 mm sd col - 12 min.

Origin: USA, 1942

Sp: General Electric Company, Visual Education Division,  
Schenectady 5, N.Y.

Dist: General Electric Company

This film shows how to do arc welding overhead and demonstrates both fillet and groove welding. It is explained that the limits are wider in overhead welding than any other kind. Apart from the inconvenience, overhead welding is basically the same as any other kind. Successful control of the molten pool depends on the four basic principles of welding. Animation is used to show the build-up on the overhead plate and the downward plate. Good appearance characteristics are enumerated and shown. Results of improper use of each of the four basic principles are shown and explained.

OECD No.FOA/533

462.

**THE INSIDE STORY**

(Fundamentals Behind Correct Lubrication)

16 mm sd bw - 42 min.

Origin: USA, 1937

Sp: Socony-Vacuum, Film Library, 26, Broadway, New York, N.Y. 1004

Dist: Socony Vacuum.

This film illustrates the various lubricating requirements of operating parts and shows how this lubrication is accomplished.

OECD No.FOA/712

463.

**HOW TO WELD ALUMINIUM - ARC WELDING**

16 mm sd bw - 10 min.

Origin: USA, 1947

Sp: Aluminium Company of America, Motion Picture Department,  
818, Alcoa Building Pittsburgh 19, Pennsylvania

Dist: Aluminium Company of America.

Pictures welding process with best use of arc and the removal of flux slag. Explains welding of butt

joints, lap welding, vertical welds. Describes pre-heating, use of filler rods, and removal of flux from finished products. Pictures mechanized welding, and atomic hydrogen welding. Illustrates the uses of arc welding in industry.

OECD No.FOA/153

**464. HOW TO WELD ALUMINUM - TORCH WELDING**

16 mm sd bw - 17 min.

Origin: USA, 1947

Sp: Aluminum Company of America, Motion Picture Department,  
818, Alcoa Building, Pittsburgh 19, Pennsylvania

Dist: Aluminum Company of America.

Illustrates equipment needed for torch welding such as hydrogen and oxygen torches, preparation of flux and application to the welding rods. Pictures tacking of sheet aluminium. Describes the tacking and welding of flanges and the uses of flange welding. Explains butt welding. Shows fill-up welding on both the horizontal and vertical planes. Pictures heavy welding. Describes the use of test plates and explains the various types of failures in welds. Shows the removal of flux by boiling water, acid rinse, and water rinse.

OECD No.FOA/5029

**465. HOW TO WELD ALUMINUM - RESISTANCE WELDING**

16 mm sd bw - 12 min.

Origin: USA, 1947

Sp: Aluminum Company of America, Motion Picture Department,  
818, Alcoa Building, Pittsburgh 19, Pennsylvania

Dist: Aluminum Company of America.

Demonstrates by animated drawing the alternating current welding machine, stored energy machine, and the condenser type storage machine. Explains cleaning materials and chemical etching of part. Describes selection of electrodes, installation of electrodes in machine, table of machine settings, current settings, weld of electrodes in machine, table of machine settings, current settings, weld settings, and adjustment of pressures. Pictures test welds and weld defects. Describes cleaning of electrodes, the materials used, and the testing of completed welds. Portrays hints on better weld. Describes the process of seam welding.

OECD No.FOA/102

**466. A LESSON IN FINISHING**

(La Leçon d'Ajustage)

16 mm. sd bw - 34 min.

Origin: France, 1959

Prod: Office de Documentation par le Film, 31, rue du Général Del-  
estrait, Paris 16e

Sp: Le Bureau de l'Enseignement de la Direction des Etudes et  
Fabrications d'Armement/Le Centre d'Entraînement du Personnel  
l'Enseignant de l'Armement

Dist: Office de Documentation par le Film

During a course for finishers, the Instructor explains and

demonstrates taping in detail. The film shows the gestures of the Instructor and shows the importance of careful preparation for a course and of accurate and orderly presentation.

OECD No.2402/6885

467.

**LUBRICATING GREASES**

16 mm sd bw - 31 min.

Origin: United Kingdom, 1955

Prod: Technical and Scientific Film Ltd., 53, New Oxford Street, London W.C.1

Sp: Mobil Oil Company Ltd., Carlton House, Tothill Street, Westminster, London. S.W.1.

Dist: Mobil Oil Company in respective countries.

This film illustrates the importance of lubricating greases in modern industry. It stresses the necessity for correct manufacture under carefully controlled conditions, demonstrates the advantages of using the correct grease and explains how it should be selected.

OECD No.1853/6615

468.

**LUBRICATION AIN'T NO PROBLEM**

16 mm sd bw - 10 min.

Origin: USA, 1961

Prod: Westinghouse Electric Corporation, No.3, Gateway Centre, Pittsburg 30, Pa

Sp: Westinghouse Electric Corporation

Dist: Westinghouse Electric Corporation

The lubrication of motors is quite simple, or so Joe - the lubrication maintenance man - thinks. Following him on his rounds gives food for thought. The good advice which follows is well worth taking.

OECD No.11221/7714

469.

**LUBRICATION IN INDUSTRY**

16 mm sd bw and col - 20 min.

Origin: United Kingdom, 1958

Prod: Shell International Petroleum Co., Ltd., Shell Centre, London, SE1.

Sp: Shell International Petroleum Co., Ltd.,

Dist: Shell International Petroleum Company Ltd.

This film shows installation, flushing and testing of lubrication system in various industrial plants (steel mills, power stations etc.) It stresses the necessity of establishing a detailed lubrication survey according to plant layout and machinery used. Modernisation and expansion of industry means that lubrication has to cope with heavier loads, higher speeds, higher temperatures. The work of the specialists to create the required lubricants is illustrated.

OECD No.2499/7118

470. LUBRICATION  
(Lubrificazione)  
(also in French)  
16 mm sd col - 15 min.  
Origin: Italy 1958  
Prod: Cinefiat, Turin  
Sp: Oliofiat, Turin  
Dist: Cinefiat, Turin.

Nobody, in industrial circles, denies the importance of lubrication. Animation shows loading of tankers and refining. Surface tension. Microscopic examination of a drop of oil. Alteration tests. Device for determining behaviour of grease under conditions similar to those in motor-car wheels. Examination of pistons after use. Oils of different composition.

OECD No.2224/6487

471. MAINTENANCE IN THERMAL GENERATING STATIONS  
(L'Entretien dans les Centrales Thermiques)  
16 mm sd col - 22 min.  
Origin: France, 1958  
Prod: Bureau des Temps Elementaires, Service Cinematographique  
du BTE, 27 rue Bassano, Paris 8e  
Sp: Electricité de France  
Dist: Electricité de France

Electric power consumption will double in the next ten years. The role of thermic generators, the block principle, and the importance of constant maintenance, the methods office and its staff, preventive maintenance, types of periodic inspections overhaul.

OECD No.2274/6620

472. MAINTENANCE OF TRACTOR MOTOR  
(Wartung des Schleppermotors)  
16 mm sd bw - 20 min.  
Origin: Fed. Rep. of Germany, 1959  
Prod: RCF - Film Gmbh, Karlsboderstrasse 16, Berlin-Grunewald  
Sp: Institut für Film und Bild in Wissenschaft und Unterricht  
Museumsinsel 1, München 26  
Dist: Institut für Film Bild in Wissenschaft und Unterricht.

In the opening scenes the film shows various types of tractors at work on the road and in the fields. It then continues to demonstrate the principal maintenance work necessary to assure the smooth running of the tractor motor. Function and maintenance of the following parts are explained; Tank, filter, fuel filter, injection pump, jet, greasing system oil change, air and water cooling. The importance of valve control is underlined and the film closes by illustrating valve adjustment on a four-stroke diesel engine.

OECD No.2634/7359

473. **MAINTENANCE PAINTING, AN ENGINEERING APPROACH TO LOWER COSTS**  
16 mm sd col - 25 min.  
Origin: USA, 1960  
Prod: Farrell and Gorge Films Inc., 213 East 38th St., New York NY.10016  
Sp: Hercules Powder Co., 910 Market Street, Wilmington 99, Delaware  
Dist: Farrell and Gorge Films Inc.

Protective painting in industry is not given the attention it deserves. Some alternatives to regular maintenance painting are described and their higher costs indicated. The reasons why paint fails, the growth of corrosion, how the design engineer can help overcome corrosion, the best types of paint, field testing, surface preparation. The importance of inspection and good records of maintenance painting. A new type of protective undercoat is described.

OECD No.11165/7577

474. **NEW WORKING**  
16 mm sd col - 35 min.  
Origin: USA, 1945  
Sp: Pennsylvania Highway Department, Harrisburg, Pennsylvania  
Dist: Pennsylvania Highway Department.

Compares the maintenance of a home to that of the highways. Shows a new highway and compares it to a new house. Pictures some bad stretches of highway and explains that it takes men to keep it in shape. Scenes of maintenance: bituminous patching of roadside signs, care given to guard rails and posts, planting of grass and trees in road cuts, bridge repair jobs. Explains how cracks are repaired in bridges by gunning. Shows the steps in skin-patching a highway and methods of concrete patching by sawing out the slab, soft-sealing and mud tamping. Diagrams the resurfacing of a road with black top. Laying of a black to highway, describes and shows how the traffic lines are painted on the highways.

OECD No.10051/FOA 5140

475. **METAL SHOP SAFETY**  
(Industrial Arts Series)  
16 mm sd bw - 18 min.  
Origin: USA 1959  
Prod: Centron Corporation, West, 9th Avalor Rd., Lawrence, Kansas  
Sp: McGraw-Hill Book Company Inc., 330 West, 42nd St., New York, N.Y.10036  
Dist: McGraw Hill Book Company Inc.

The film covers the subject of safety in the metal shop from a great variety of angles; safe clothing, proper handling of tools and power machinery, use of goggles and gloves and correct behaviour in the shop in general. Safety procedures for operation of forges, molding, casting, soldering, welding and use of acids.

OECD No.10912/6975

476. **MOBILE CRANES ON WORK SITES - MOBILE TOWER CRANE TRACKS**  
(Les grues de chantiers - Les vogies des grues à tour mobile)  
16 mm sd col - 24 min.  
Origin: France, 1960  
Prod: Je Vois Tout, 10, rue du Chateau, La Garenne-Colombes (Seine)  
Sp: Organisme Professionnel de Prévention du Bâtiment et des Travaux Publics, 2 bis, rue Michelet, Issy-les-Maulineaux (seine)  
Dist: Je Vois Tout.

**Correct installation of the rails of mobile tower cranes is extremely important if serious accidents are to be avoided. The following points are emphasized:**  
**Correct construction of a perfectly level railway.**  
**Adequate and effective buffers at the end of rails.**  
**Electrically earthing the crane and rails. Electrically earthing the crane and rails.** Correct calculation of loads and strains. Cranes should be assembled by experts.

OECD No. 2786/7659

477. **MODERN REPAIRSHOP**  
(Et Moderne Verksted)  
16 mm sd bw - 38 min.  
Origin: Norway, 1953  
Prod: V.N. Productions  
Sp: Norges Statsbaner, (Norwegian Railways), Hovedstyret,  
Presse-og Opplysningskontoret, Storgata 33, Oslo  
Dist: Norges Statsbaner.

In 1953, the Norwegian Railways built new repair shops for steam engines. They endeavoured to make them as functional as possible. They aimed at the maximum of safety, and careful planning simplified operations. Dismantling of a locomotive and repair of components in the various shops are shown.

OECD No. 2190/6446

478. **THE PERMANENT-WAY MAN**  
(Monsieur Untel... Cantonnier)  
16 mm sd bw - 24 min.  
Origin: France, 1954  
Prod: Sté Nationale des Chemins de Fer, Section Centrale  
Cinématographique, 9, Quai de Seine, Saint-Quen (Seine)  
Sp: Sté Nationale des Chemins de Fer.  
Dist: Sté Nationale des Chemins de Fer.

Films on the handling of permanent-way equipment and fittings. Prevention of accidents and standing instructions for carrying out heavy work.

OECD No. 1195/6915

479. **PIPE TOOLS FOR INDUSTRY**  
3 reels Free 27 mins.  
G. and J. Hampton  
Cinchrome, 1966  
Colour.

A training film on the use of industrial pipe tools. A brief introduction showing manufacture of pipe tools at the sponsor's works is followed by a lecture with demonstrations on the selection, use, care and maintenance of pipe vices, cutters, wrenches and tongs. We then see trainees handling pipe tools under instruction, and the film finally underlines the important part played by pipework in industry. For technical college students and apprentices.

UK 2308

480. **PLAN TURNING ON THE METAL-WORKING LATHE**  
(How to Run a Lathe Series)  
16 mm sd col - 22 min.  
Origin: USA, 1941  
Prod: Burton Holmes Films  
Sp: South Bend Lathe Works, South Bend 22, Indiana  
Dist: South Bend Lathe Works

Points out that turning between centres allows heavier cuts because of rigidity of materials. Explains and shows the marking of stock ends. Describes the preparation of the centre with a combination drill-center punch or 180 rpm. Shows the setting-up of the lathe and stresses the thorough cleaning of the lathe parts. Shows the lubrication and setting of the face plate. Describes the setting-up of the head stock lathe and tail stock. Shows the squaring of the shaft ends and the grinding and setting of the cutter in the tool holder. Shows the setting of the tool post, compound rest and center point. Describes tests with caliper checking. Demonstrates scribing and sharpening of the tool.

OECD No.10096/FOA 5248

481. **PLAN YOUR MAINTENANCE**  
16 mm sd bw - 32 min.  
Origin: United Kingdom 1960  
Prod: Anvil Films Ltd., Beaconsfield Studios, Beaconsfield, Bucks.  
Sp: British Productivity Council, Queen Street Place, London E.C.4.  
Dist: British Productivity Council.

The film is built round three candidates for the post of Maintenance Engineer who are being interviewed by the management of a factory which has suffered considerably from mechanical break-downs. By means of this device several possible approaches to the problem of maintenance are shown.

OECD No.3029/8031

482. **PLAN YOUR MAINTENANCE**  
3 reels 32 mins.

Planned maintenance as a method of preventing mechanical break-downs. Three candidates are interviewed for the post of maintenance engineer in a factory which has suffered from frequent breakdowns. In the course of these interviews, several approaches to the problem of maintenance are presented and discussed. Stress is laid on the importance of a planned system and one simple yet effective system.

UK 1602.

483. **PLIERS AND SCREWDRIVERS**  
16 mm sd bw - 17 min.  
Origin: USA, 1943  
Sp: Plomb Tool Company, Advertising Dept., Box3519, Terminal Annex, Los Angeles 54, California  
Dist: Plomb Tool Company.

This films uses a "do" and "don't" approach on the uses of pliers and screwdrivers. A training type film.

OECD No.FOA/5058

484.

**PREVENTIVE MAINTENANCE - EFFECTIVE LUBRICATION**  
(Preventief Onderhoud - Doelmatig Smeren)

16 mm sd bw - 20 min.

Origin: Netherlands

Prod: Starfilm N.V.

Sp: Contactgroep Opvoering Productiviteit Supervision of  
Technisch Filmcentrum, Stadhouderslaan 152, The Hague

Dist: Technisch Filmcentrum, Stadhouderslaan 152, The Hague

Thorough preventive maintenance is required for plant machinery. One machine, stopped may bring the whole production line to a standstill. Provisional and hasty repairs are not satisfactory. A programme must be set up based on the inventory of the machines, results of tests, frequency of use, role of the various components, and time required for maintenance. The maintenance department must keep the various departments informed of the number of complete or partial overhauls of each machine. Thus a maintenance calendar can be made. A greasing and inspection programme is set up for each machine, reports and maintenance reduces production costs (diagrams)

OECD No.2240/6549

485.

**THE PREVENTION AND CONTROL OF DISTORTION IN ARC WELDING**

16 mm sd col - 20 min.

Origin: USA, 1958

Prod: Walt Disney Productions, Educational Film Division,  
Burbank, California.

Sp: Lincoln Electric Company, Cleveland, Ohio

Dist: Lincoln Electric Company.

Largely by use of animation, this film demonstrates methods to prevent faulty welding. Three rules are emphasized: (1) Reduce the effective shrinkage force; (2) Make shrinkage work for you; (3) Balance shrinkage forces with other forces. The conclusion: controlled shrinkage prevents distortion.

OECD No.10860/6874

486.

**PRINCIPLES OF LUBRICATION**

2 reels - 15 mins.

U.S.O.E., 1945

This film shows the basic principles of lubrication in terms of viscosity and the relationship to it of cohesion and adhesion. The method of determining absolute viscosity and the conditions which must be considered in selecting a proper lubricant viscosity are discussed. A useful training film for students and apprentices, and of interest to all concerned with the maintenance of plant.

V 1089 (UK)

487.

**PRODUCTIVE MAINTENANCE**

16 mm sd col - 25 min.

Origin: USA, 1954

Prod: Welding Picture Productions, 1345, Argyle St., Chicago 40, Ill.

Sp: General Electric Company, Motion Picture Div., Schenectady 5, N.Y.

Dist: General Electric Company.

Tells in story form how one harassed maintenance supervisor



learns about productive maintenance and applies its principles to systematizing his maintenance procedures.

OECD No.10415/6155

488.

**RAMROD**

(also in French)

16 mm sd col - 13 min.

Origin: United Kingdom, 1959

Prod: The Glacier Metal Co., Ltd., Alperton, Wembley, Middlesex

Sp: The Glacier Metal Co., Ltd.

Dist: The Glacier Metal Company Ltd.

A research film on the lubrication of engine bearings. The danger of a break-up of the oil film (cavitation) is pointed out and the way in which this limits the life and power output of engines. By using a test rig fitted with a transparent bearing, the sponsors have been able to analyze cavitation and to develop a system of high-pressure oil injection which floods the bearing at the critical moment of maximum load.

OECD No.2564/7237

489.

**REMOVING DEFECTIVE RIVETS**

(Assembling and Riveting)

16 mm sd bw - 14 min.

Origin: USA, 1943

Sp: United States Office of Education, Washington 25, D.C.

Dist: United States Office of Education.

Shows the procedure used in removing defective rivets in aircraft manufacture. It shows in detail the steps necessary for drilling out a defective bucked head and the necessity of removing the head without damaging the parts.

OECD No.FOA/733

490.

**RESERVICING CARBIDE TOOLS**

16 mm sd col - 25 min.

Origin: United Kingdom, 1960

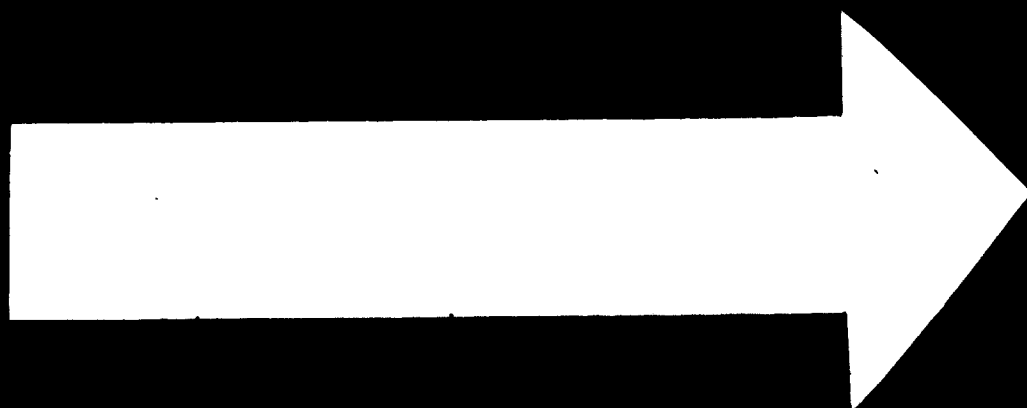
Prod: Wickman Ltd., Banner Lane, Coventry

Sp: Wickman Ltd.

Dist: Wickman Ltd.

In order to understand the correct methods of servicing carbide tools, the composition and manufacture of carbide steel is discussed. The correct procedures for sharpening single point and secondary point tools are clearly demonstrated and the correct use of various types of grinding wheel is also illustrated. Some common faults of sharpening are shown.

OECD No.2804/7689



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491. **A SAFE SHOP**  
(Industrial Arts Series)  
16 mm sd bw - 11 min.  
Origin: USA, 1965  
Prod: Centron Corporation, West, 9th Avalon Rd., Lawrence, Kansas  
Sp: McGraw-Hill Book Co., Inc. 530 West, 42nd Street, New York.  
N.Y. 10036  
Dist: McGraw-Hill Book Company Inc.

This film illustrates some safety problems and procedures applicable to a small workshop. Among the subjects discussed are: safe clothing; use of goggles, shields and gloves; marking of work areas; clean and orderly shop; checking and storage of gas cylinder and inflammable liquids; good lighting etc.

OECD No.10924/7065

492. **SAVE THOSE TOOLS**  
16 mm sd bw - 10 min.  
Origin: USA, 1944  
Sp: Foreign Operations Department, International Harvester Co., 180 N. Michigan Avenue, Chicago 1, Illinois  
Dist: International Harvester Company.

Shows a large machine shop as narrator explains the need for tool salvage and a conservation programme. The importance of an educational programme is pointed out as the film reviews briefly procedures to follow, which will eliminate much tool breakage. The salvage programme is reviewed. Depicts briefly the broken tool collection bins and inspections to determine the cause for breakage. Shows the repairing of tools and the central storage dept, which all member plants are free to call on for salvaged parts. The importance of low temperature brazing for repairing tools is stressed.

OECD No.FOA/5023

493. **SCRAPING FLAT SURFACES**  
(Bench Work)  
16 mm sd bw - 14 min.  
Origin: USA, 1944  
Sp: United States Office of Education, Washington 25, D.C.  
Dist: United States Office of Education.

The narrator explains that machines require flat surfaces for accurate guides and liquid-tight joints; how this flat surface is obtained through machine scraping is illustrated. How to check surfaces with surface plates is shown; explains how to check surfaces for steadiness, how to clean with alcohol, how to remove burrs, and how to locate high points by use of Prussian blue.

OECD No.FOA/698

494. **SERVICE PROCEDURE FOR BALL BEARINGS**  
16 mm sd bw - 20 min.  
Origin: USA, 1950  
Sp: General Motors Corporation, General Motors Building, Detroit 2, Michigan  
Dist: General Motors Corporation

498. **SOLDERING LUGS AND SPLICING STRANDED CONDUCTORS**

2 reels - 17 mins.

U.S. Office of Education, 1945

This film shows how to solder lugs and splice stranded conductors. Animated diagrams show the use of electric soldering tongs and illustrate a method of splicing the cable, and how to solder the splice. Procedure for soldering large lugs, using a solder pot, ladle, and gasoline furnace, is explained. A useful film for technical college students, and for electrical manufacturers, electricity supply authorities, and others, for training purposes.

499. **STUDY OF PLANING OPERATIONS**

(Theory of Metal Cutting)

16 mm sd bw - 13 min.

Origin: USA., 1945

Sp: General Electric Company

Dist: General Electric Company

This film shows study, with a high speed camera, of of planing operations. Diagrams are used to point out and pictures show the chip compression and distortion of steel at eighty feet per minute and at one hundred and sixty feet per minute.

OECD No.FOA/823

500. **A THING OR TWO**

16 mm sd col - 24 min.

Prod: Caterpillar Tractor Company Peoria 8, Illinois

This film gives a detailed explanation of the care and maintenance of the farm diesel tractor engine.

OECD No.FOA/42

501. **THIS IS RESISTANCE WELDING**

16 mm sd col - 32 min.

Origin: USA, 1946

Sp: General Electric Company, Visual Education Division, Schenectady 5, New York.

Dist: General Electric Company

Describes three types of resistance welding: spot, projection and seam; points out the advantages and uses of each type.

OECD No.FOA/459

502. **VEHICLE MAINTENANCE STORY, THE**

16 mm sd - 13 1/2 min.

Post Office Department, Washington D.C. U.S.

This film, in full colour, emphasizes the system used to maintain the vast fleet of vehicles needed to deliver the United States mail. It explains the various job opportunities available to vehicle maintenance personnel in the Postal Service.

From Educators Guide  
to Free Films

The film illustrates the fundamental procedures in removing, cleaning, inspecting and reassembling ball bearings. Films emphasizing the need for thorough cleaning and oiling of the ball bearings and oiling of the ball bearings and raceways. Good close-ups contrast correct with incorrect methods and procedures.

OECD No.FOA/5206

495. SHARPENING CUTTING TOOLS  
(Omslipning Av Hardmetallsvarvstal)  
16 mm sd col - 10 min.  
Origin: Sweden  
Prod: A.K.A. Film, Riddorgatan 23 B, Stockholm  
Sp: A.K.A. Film  
Dist: A.K.A. Film

This is a special educational film known in Sweden as "moment-film", i.e. it is designed so that the instructor can stop the film at a certain frame in each important sequence. The film reviews the various occasions when the blade must be sharpened; broken, cutting edge out of square, insufficiently sharp or doubled. How to control the angle.

OECD No.2201/6437

496. SHOP SAFETY  
16 mm sd bw - 28 min.  
Origin: USA, 1958  
Prod: United States Army Pictorial Service, Signal Corps, Washington D.C.  
Sp: United States Army Pictorial Service, Signal Corps.  
Dist: United World Films Inc., 1445 Park Avenue, New York N.Y. 10029

This film treats some aspects of safety in the motor repair shop. The following common faults are carefully depicted: improper blocking of vehicle raised for repair; disregard of fundamental safety rules in welding, drilling and use of machine tools, lack of ventilation and cleanliness; improper lifting, misplaced playful humour, etc.

OECD No.10971/7071

497. SOFT SOLDERING  
2 reels, - 19 mins.  
Topical, 1949

An introduction to soft soldering. The reasons for cleaning, heating and applying flux to the surfaces to be joined, and the making of a sweated joint. The use of soldering bits. Capillary action in the fixing of a base ring to a copper ashtray. The making of killed spirits (zinc chloride) and the importance of cleaning after using it. A useful training film for technical college students and apprentices.

UK 1464

503.

**WORKING SAFELY IN THE SHOP**

16 mm sd col - 10 min.

Origin: USA, 1953

Prod: Coronet Instructional Films, Inc., Coronet Building,  
65 E. South Wacker Street, Chicago, 1, Illinois

Sp: Coronet Instructional Films, Inc.

Dist: Coronet Instructional Films Inc.

This film presents clearly and effectively the three essentials of shop safety. How to keep a shop safe for works; How to dress for safety when working; How to operate a safety some of the most important machines; grinder, circular saw, jig saw, drill press, jointer, lathe and disc sander.

OECD No.10594/6246

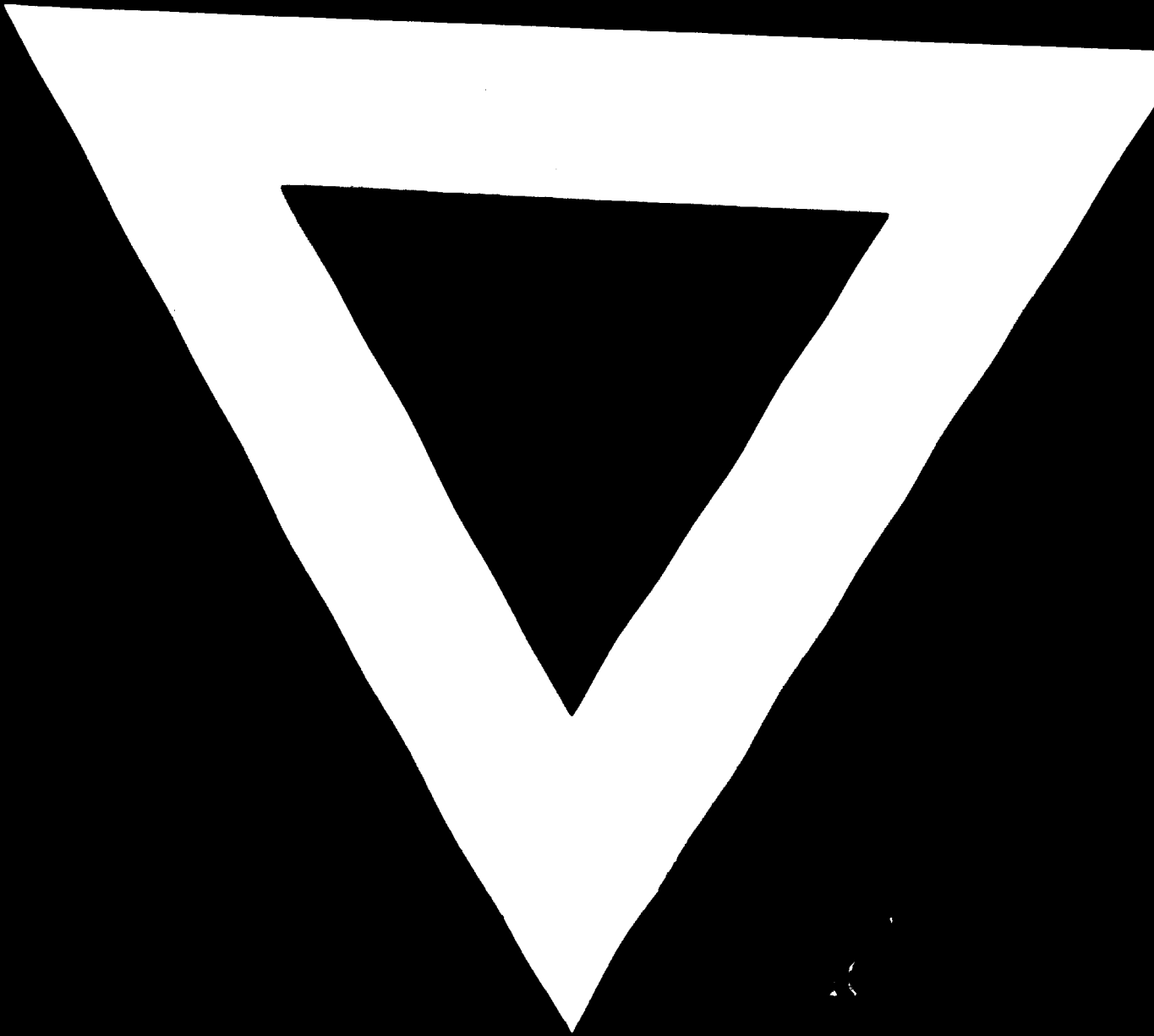
5. ORGANIZATIONS AND INFORMATION CENTRES  
DEALING WITH MAINTENANCE PROBLEMS.

504. Österreichisches Produktivitätszentrum  
Vienna 1  
Penngasse 5 Austria
505. Societe Royale Belge des Ingenieurs et  
des Industriels  
Rue Ravenstein 3  
Brussels Belgium
506. Jernindustriens Forskningsrådvalg  
(Research Committee of the Metalworking Industry)  
The Scandinavian Working Groups on Maintenance  
of Machine Tools  
Nørre Voldgade 34  
Copenhagen K. Denmark
507. Ti, Smede-og Maskinbeddelinger  
Department of the Technological Institute  
Hagemansgade 2,  
Copenhagen V. Denmark
508. Verein Deutscher Ingenieure, Dokumentationsstelle  
Fachgebiet Betriebschule  
4 Düsseldorf 2,  
Graf Becke-Strasse 84  
F.O.B. 1179 Federal German Republic
509. Rationalisierungskuratorium der Wirtschaft  
Giltent Str. 163-167  
Frankfurt A/M Federal German Republic
510. Association des Chefs d'Entretien de France  
4 Rue Cambon, Paris France
511. Association Française pour l'accroissement de la  
productivité, Service d'Orientation et de Documentation  
6, rue Royale  
Paris 8ème France
512. Commission Générale d'Organisation Scientifique,  
(CEGOS), Group E "Entretien"  
12, rue Blaise Pascal  
Neuilly-S/Seine France
513. Association Française des Ingenieurs et Chefs d'Entretien  
30, rue des Vignerons  
Vincennes France
514. Scientific Society of Mechanical Engineering (GTE)  
Section for Maintenance and Repair  
Budapest V  
Szabadsag ter 17 Hungary



515. Associazione Italiana di Manutenzione  
Centro Sviluppo Economico  
Trieste  
Piazza della Borsa 1A  
Italy
516. Netherlands Association for Efficient  
Maintenance (E/o NEMV)  
18 Parkstraat,  
The Hague  
Netherlands
517. Nederlandse Vereniging voor Doelmatig Onderhoud  
Parkstraat 18  
Den Haag  
Netherlands
518. Polish Association of Mechanical Engineers (SIMP)  
Warszawa, ul. Czackiego 3/5  
Poland
519. Institute of Industrial Economics and  
Organization (IIEO) Documentation and  
Information Section  
Warszawa, P.O. Przech. Wrzesek 3/5  
Poland
520. Foreningen Underhallsteknik  
(Swedish Association for Maintenance Techniques)  
Box 122  
S-147 00 TUMBA  
Sweden
521. Production Engineering Research Association  
(PERA) (production engineering advisory  
service on plant maintenance)  
Melton Mowbray,  
Leicestershire  
United Kingdom
522. The British Council of Maintenance Associations,  
C/o Maintenance Engineering,  
89 Blackfriars Road,  
London. S.E.1.  
United Kingdom
523. British Mechanical Engineering Confederation,  
Leicester House,  
8 Leicester Street,  
London. W.C.2.  
United Kingdom
524. Engineering Equipment Users Association,  
20 Grosvenor Place,  
London. S.W.1.  
United Kingdom
525. Engineering Industries Association,  
3 Portman Square,  
London. W.1.  
United Kingdom
526. Institution of Engineering Inspection,  
616 Grand Buildings,  
Trafalgar Square,  
London. W.C.2.  
United Kingdom
527. The Institution of Plant Engineers  
128 Buckingham Palace Road,  
London. S.W.1.  
United Kingdom

528. International Maintenance Institute (IMI)  
Greenwich Co.  
06830, P.O. Box 409  
United States of America
529. American Society of Lubrication Engineers,  
819 Busse Highway,  
Park Ridge  
United States of America
530. National Association of Corrosion Engineers,  
980 M and M Building,  
Houston,  
Texas 77002  
United States of America
531. Systems Maintenance Service,  
Federal Aviation Administration,  
800 Independence Avenue S.W.  
Washington, D.C. 20513  
United States of America
532. Maintenance Technology Office,  
Oklahoma City Air Material Area,  
Operations Support Division,  
Timber Air Force Base,  
Oklahoma 73145  
United States of America
533. American Institute of Management (AIM)  
125 East 33th Street  
New York, N.Y. 10016  
United States of America
534. American Management Association (AMA)  
135 West 50th Street,  
New York, N.Y. 10020  
United States of America
535. Moscow Technological Institute  
Moscow  
USSR



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