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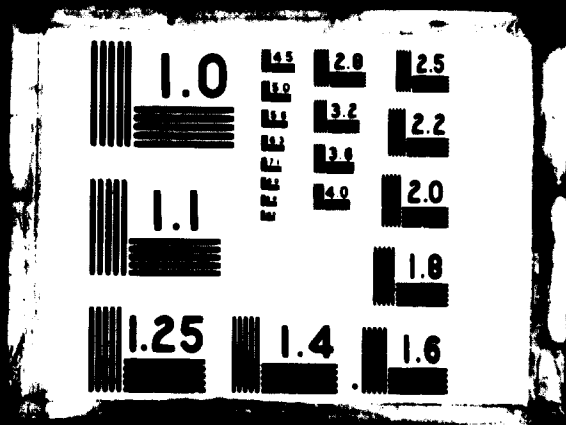
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AFTER-SALES MAINTENANCE
IN THE AUTOMOTIVE FIELD

by

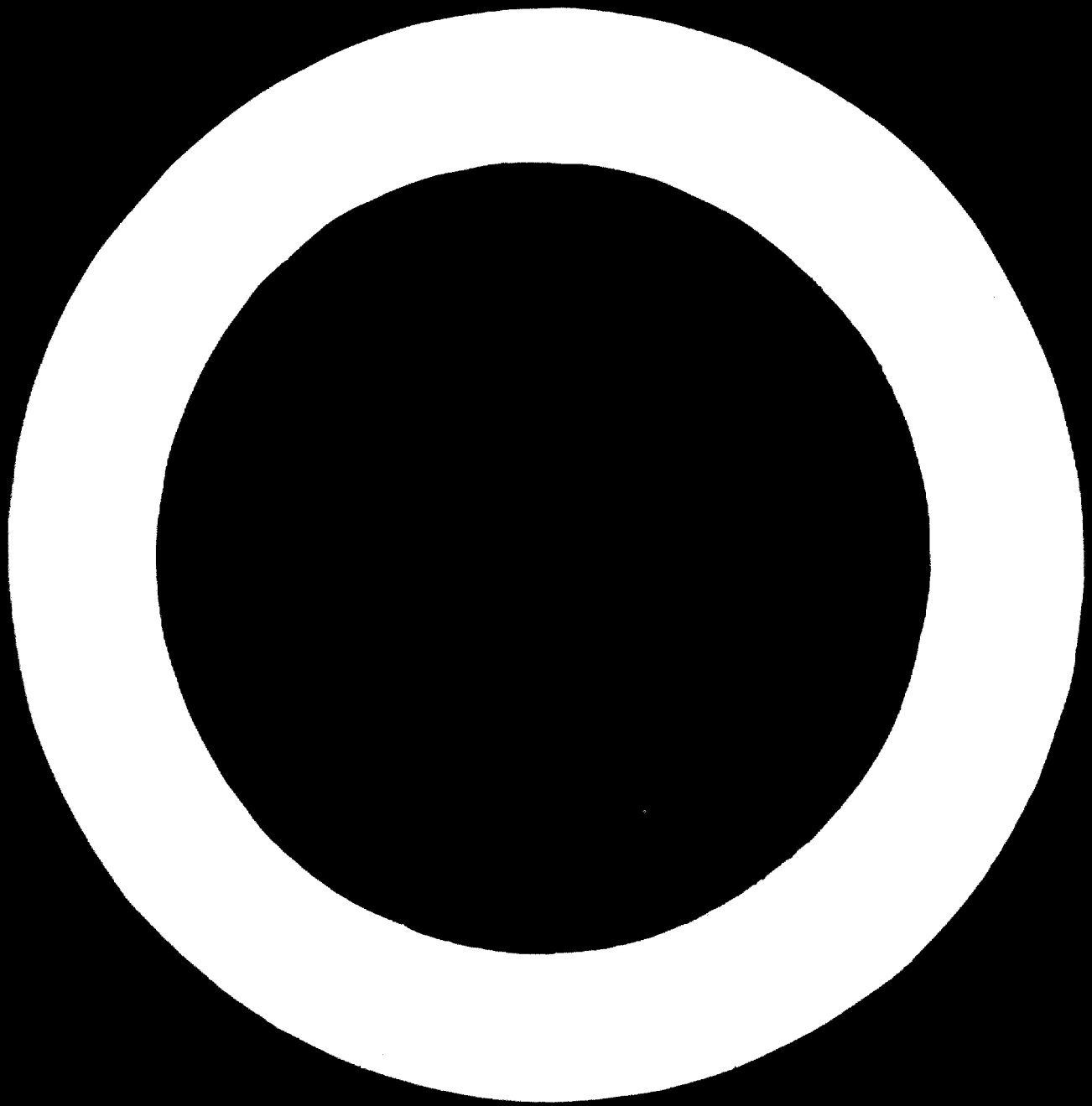
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AFTER-SALES MAINTENANCE IN THE AUTOMOTIVE FIELD

Today more than every automaker realizes that its fortunes depend upon its capabilities to be competitive in the fields of quality, prices and supporting sales-service organization.

To strengthen their positions in the various markets in view of the competition growing stronger because of the progressive lowering of customs duties (affecting in particular the European automakers) and because of the constant increase in general industrial output, it is therefore imperative not only to rely upon a proficient, intelligent and continuous action in the above-mentioned fields, but particularly to be able to offer the Clientele a reliable service.

The accomplishment of this objective is obtained through a planned utilization of human resources and the proper use of material means such as facilities, equipment, tools, etc. This so that the service network may possess those repair and maintenance techniques indispensable to offer the best in service, since the automobile as other similar consumable items would lose some of its reliability should an efficient service not be available.

In other words, one may state that, particularly in this sector, sales and service must form an inseparable binomial. It is obvious that every automaker sets up its own service network according to established criteria and standards depending both upon the type of its own organization and the number, features and operating conditions of its product, as well as upon its understanding about the practical application of the concept of maintenance.

It is also obvious, however, that the gist of such concept is interpreted in like manner by every automaker inasmuch as its scope is that of ensuring a long life and normal performance to the vehicles on the road throughout the years.

As a consequence, every automaker is aware of the importance of relying upon an efficient network staffed with qualified personnel capable of applying the most up-to-date techniques, so as to be able to carry out quickly and efficiently also those unavoidable repairs and/or replacements the vehicle may require through its life.

It is however understandable that this line of action must be supported by a concurrent execution of periodical maintenance operations, as every automaker always recommends to the Clientele by stressing the importance to obtain the best results out of the vehicle; it is at this point that the concept of maintenance has its full and valid meaning.

The mode and schedule followed in carrying out the maintenance service is at any rate evolving constantly because of the progressive improvement of manufacturing techniques introduced by the manufacturers also on account of commercial factors created by the competition. Nowadays, for instance, there is a tendency among automakers to make use of "Diagnosis Stations" in their service network in order to obtain a standard checking of cars in a better and quicker way, with a view of advising the owner about the maintenance operations the car actually requires; this system has the advantage of saving the Clientele time and expenses.

Concurrently, as refers more strictly to the service field, the manufacturers face ever-increasing difficulties in training enough service personnel to cope with the need of assisting an always greater number of vehicles on the road. Furthermore, it has become necessary nowadays to shorten as much as possible the time needed for the repairs to satisfy the present-day requirements of the Clientele. These two facts have called for the introduction of rotation units, such as engines, transmissions, rear axles, etc., which may be either new or rebuilt at centralized workshops and then distributed to the service network to be installed on the vehicles.

These general considerations having been made, we consider it appropriate to illustrate the facets most important of this subject, omitting obviously the strictly technical side of the question as it is not pertinent.

We will therefore limit ourselves to describe the set-up and organization of the Service, showing as a matter of instance and for information what FIAT has undertaken in this field.

In fact, as it is also the case for other manufacturers, our Company has kept on improving and expanding its network, with special attention being paid to the service and spare parts distribution sectors.

In the beginning the FIAT network has developed most in those industrial countries which have offered and are offering the best export prospects. Later on, and following the general trend, our Company has committed itself and enlarged its operations in the developing countries markets by creating manufacturing and assembly lines often in joint venture with local economic sources.

Along with these activities we have built in such areas up-to-date service facilities for cars, trucks and tractors and planned heavy investments for improvements and expansion purposes by adding new service centers.

Summing up, during 1969 the FIAT sales and service network abroad has been enlarged by putting into operation or completing Branches and Service Centers in more than 20 countries.

Wherever possible we have made the network more far-reaching in order to offer a quicker and handier service for the benefit of car owners by developing for instance, in cooperation with large oil companies, Service Centers located on highways, main auto roads, airports, etc. Furthermore, a "Holiday Service" by travelling service vans is operational along the main autoroutes, in Italy and other countries, during the summer for tourist cars, even if of different Make. Also a new standard diagnosis and maintenance system consolidated in the "FIAT Diagnosis Station" is being introduced in the service network.

Finally, since the efficiency of service given by the organization is strictly connected with the prompt availability and fast distribution of spare parts, our Company, in all areas where it operates, has taken painstaking care in improving this sector of activity by employing the most up-to-date systems and means of controlling and distributing spare parts.

SERVICE CENTRAL SET-UP

To supervise the service sector, automakers avail themselves of a central department having the duty in general of studying and coordinating all service activities in the markets where they operate.

In our case, for example, these tasks are accomplished by our Central Service Department through its two most important sectors, as follows:

- liaisons with Factory Departments,
- liaisons and close control of Organization; relationship with Clientele.

We will describe briefly hereunder the relevant activities of specialized Central Department offices relating to the second of the above-mentioned sections, which is the one pertinent to the topic of this paper:

- studying and designing of general layouts and size of inner departments of Branches, Service Centers and Dealer facilities: in this connection special free-of-charge assistance is given to Dealers whenever required;
- studying of installation of general and specific equipment, machinery, tools, etc.;
- studying of labour flow, methods and time of repairs; designing, testing, manufacturing and distribution of special tools;
- studying of the Organization and operation of spare parts warehouses which are supervised, as needed, by specialized technicians at the site;
- planning of programs to strengthen the Service in the various countries; studying of all problems connected to the after-sales service; backing up of local organizations by making available in Italy or sending abroad the necessary technical personnel as required; Distributors' warranty administration;
- editing and distributing shop manuals, handbooks and various other publications, all translated in the main languages; preparation of other training aids such as films, slides, wall charts, etc.;
- Central Service School for formal instruction and upgrading of our service personnel at all levels; training and specialization of different categories of service network personnel and local personnel.

As far as this last sector is concerned, it can be understood that great importance is attached to the education and

tion the setting up in its premisses of a 250-seat cafeteria, which offers the possibility of serving several different kinds of foods to satisfy the various eating habits of our foreign guests.

Spare Parts

The overall picture of the Central Service Set-up can not be considered complete without mentioning, however briefly, the important sector of the spare parts.

In our case there is a Central Department in charge of spare parts supply planning, stocking and distribution to the after-sales network.

The spare parts flow from both the production line and outside suppliers to a Central Depot in Turin, where they are stocked and then distributed according to the requirements of the Service Organization as well as of the centrally-programmed provisions. The stock control and administration is carried out entirely by an electronic computer.

The spare parts distribution system is in short as follows:

- Italian and foreign branches with their own warehouses, obtaining the spares directly from the Central Depot and distributing them to the network of Agents in their respective operating areas;
- foreign Distributors directly supplied by the Central Depot and distributing them to Agents and sub-Agents in their respective operating areas;
- spare parts shops directly supplied by the area Branch and/or Distributor.

The spare parts distribution flow is illustrated in enclosure No. 1.

FIAT SERVICE IN THE WORLD

The importance that every major automaker gives in maintaining a reliable and comprehensive service network in the countries

where they operate is demonstrated in our case by the existing 12,000 service centers (inclusive of minor service stations) with a total covered area of about 5,000,000 m² (approx. 50,000,000 sq.ft) and with a technical labour force of about 100,000 units.

Enclosures No. 2 and 3 show the set-up of our service network and, for each continent, the number of direct branches and dealers, their covered service area and personnel.

Further details may be furnished should a panel be held in this regard.

SERVICE IN DEVELOPING COUNTRIES

As it is known, developing countries are understood to be those not yet in possession of an industrial structure comparable to the one of the more powerful but less numerous group of industrial nations.

Therefore, aside from the nations of North America and Western Europe, Japan, Australia, New Zealand and South Africa, the rest of the world can be defined as being in a developing phase; an exception to be considered, though, is that of socialist economy countries, which by following a scheme of economic development basically different from the western one, are typical cases on their own.

In general, the automotive situation in most of the developing countries can be summarized as follows:

- very low density of vehicles, in total and relative number;
- infrastructures not yet developed thus causing often the use of vehicles in totally different conditions from the ones foreseen by the manufacturers;
- excessive weight of autoimport on the usually unfavourable balance of trade.

Therefore, by keeping in mind such difficulties and other different reasons of political and economic nature, the large

companies and private enterprises have shown a tendency to invest locally rather than exporting the end product.

The major automotive industries appear to have anticipated this evolution by having started already since sometime to cooperate in the process of industrial development in the countries concerned by creating production factories and assembly lines, often in cooperation with local economic sources.

Since, however, the problem of relying upon an efficient after-sales service by establishing properly located service centers supplied with suitable equipment and staffed by trained personnel does not change in the case of vehicles locally assembled or exported, and because of the reasons outlined previously, there is an obvious necessity of backing up the afore-mentioned local enterprises through the concurrent creation of a direct service network or in close cooperation with local Distributors.

This line of action is followed by our Company and in both cases to ensure that all service personnel have the knowledge and skills to successfully service our products, FIAT brings out important means to train local personnel who has been staffing since long and in ever greater number the direct branches and who, in any case, is, in our belief, the backbone of service.

These means, including generally instruction programs, educational material and mobile workshops, are basically employed to teaching our methods and procedures for carrying out repairs and using properly the related machinery and tools. This with the purpose of reaching a satisfactory level of work efficiency demonstrated also through the adherence to flat repair times. This system provides also a standard yardstick against which the performance of service centers, as well as the validity of their economical management, can be checked.

SERVICE STAFF IN DEVELOPING COUNTRIES

As it is known, the after-sales service contemplates the displacement of technicians of the Central Service Department

to the various countries - particularly those in a developing stage - in order to follow closely the existing organization.

FIAT technicians, among the duties described hereunder, organize and supervise local training courses either at the Service Schools located at every Branch or locally at the organization premises.

Such courses, based on programmed schemes, are however flexible enough so as to be adapted to the needs and various levels of training. All educational material we make available - specific and general shop manuals, slides, technical films, wall charts, exploded views, demonstration cut-away assemblies, tools and machinery - is used to this effect.

In particular cases involving instruction at remote facilities, mobile workshops (the use of which was originally intended mainly for assistance purposes where service centers are not available) are employed, the van equipment being then used as a means of demonstrating the repair techniques and correct use of special tools in order that the trainees may give better results when on the job.

Our technicians, on the basis of their duties, can be classified in: resident technicians, technicians transferred abroad and engaged by Branches or Dealers and, depending upon special circumstances, technicians temporarily transferred abroad. Among these people we wish in particular to describe hereunder the activities of the resident technicians.

They operate mostly in areas such as Africa, Middle and Far East, Central and South America.

These technicians make planned trips from their home base to inspect the local Organization. The results of such visits are reported in detail to the Central Service Department in Turin, so that we are kept abreast of local matters and are thus able to take whatever action is needed for a constant improvement of the service situation.

Every Dealer located in a developing country is periodically visited by said inspectors who spend one or more weeks (as required) supervising in particular workshop and warehouse ag

tivities and coping with the following main duties besides solving special problems:

- to study and counsel about the best layout of service centers and the proper use of tools and working procedures to achieve best results. A particular consulting care in this connection is given to dealerships, being set-up as new and/or reorganized or transferred to new locations, by backing up the local management and personnel for a suitable period of time.
- to instruct the local staff by organizing training courses as already mentioned previously, to cooperate with dealership management to choose the best local workers to be sent to Turin for specialization courses at the Central Service School.
- to control the technical performance of vehicles in relation to their use, the climate and road condition.



In conclusion, as it should materialize from the data as well as from the contents of this paper, it is evident that the "Service" commitment in general and in the developing countries in particular has to be great indeed.

In fact, besides implementing its own scopes, "Service" engages to a large extent in teaching and training local staff, activities these which major automakers carry out in a spirit of cooperation that always underlines their relationship to all countries in which they are present, including of course those in a developing stage.

It can be stated therefore that the commitments towards these countries the industrial nations have in general, and thus also in the automotive service sector, go beyond the mutual benefit to transform itself into a tangible contribution of know-how, techniques, systems etc., among which is of primary importance the technical formation of local personnel from the younger generation, this being a normal and indispensable condition for the industrial growth of a developing country.

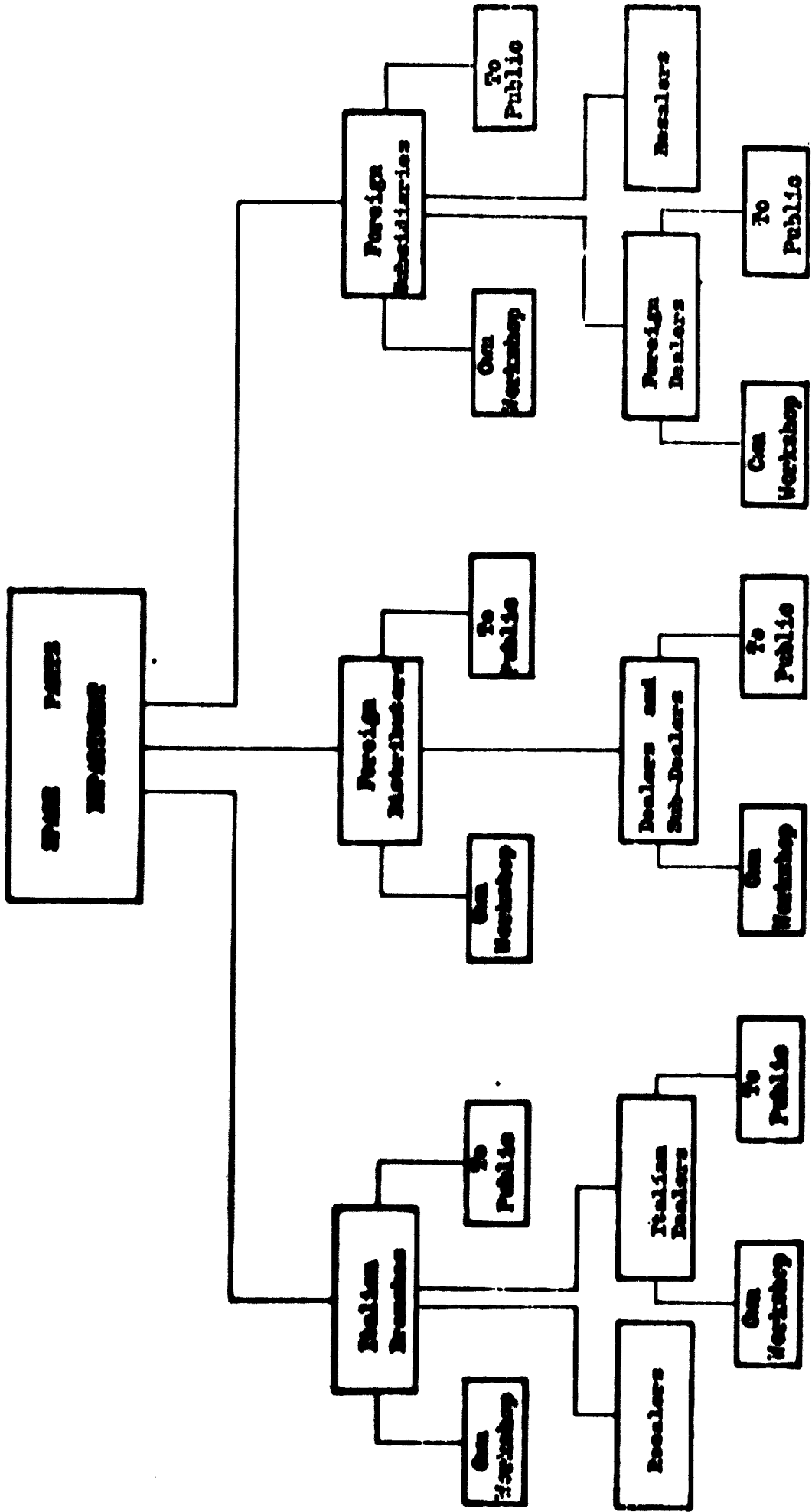
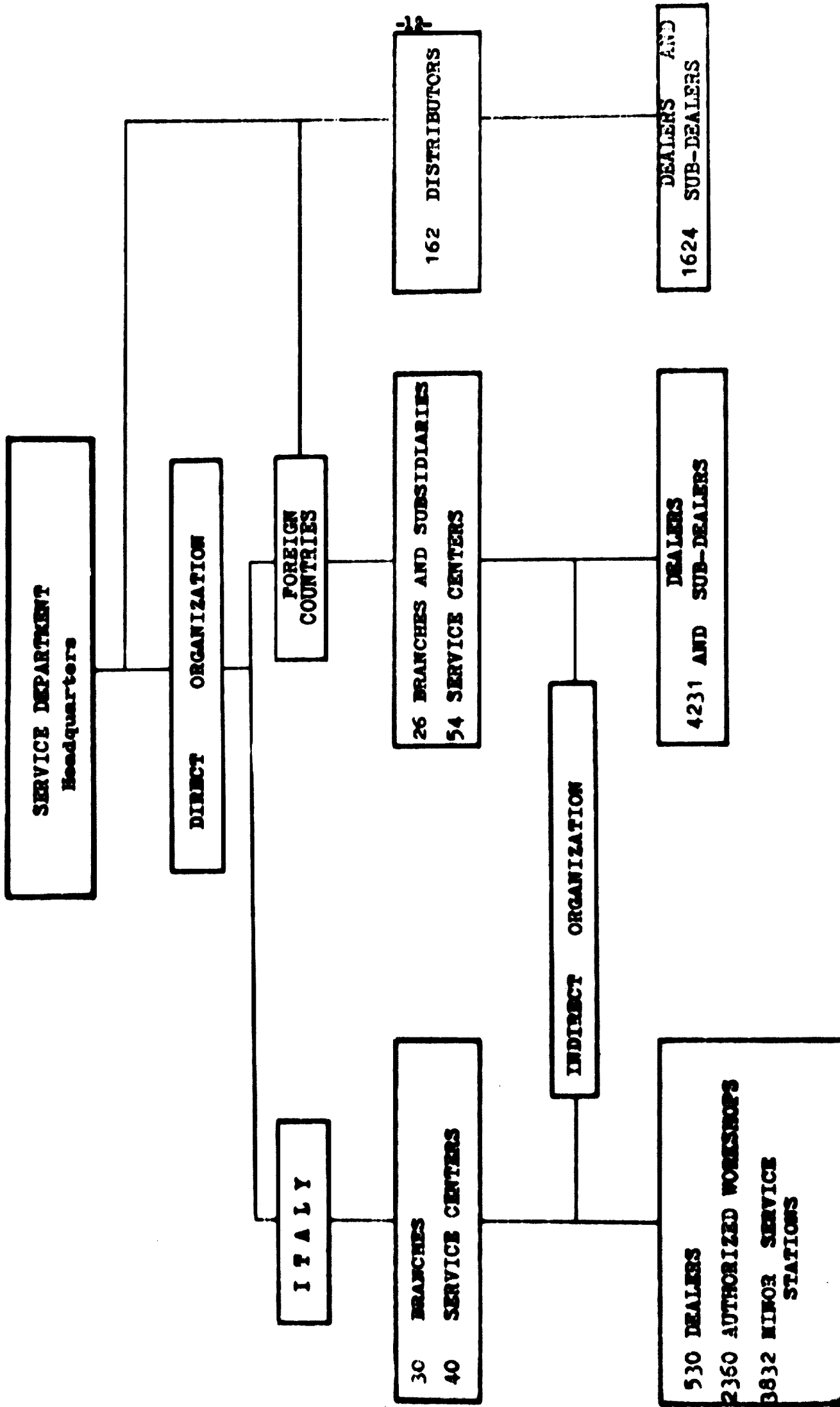
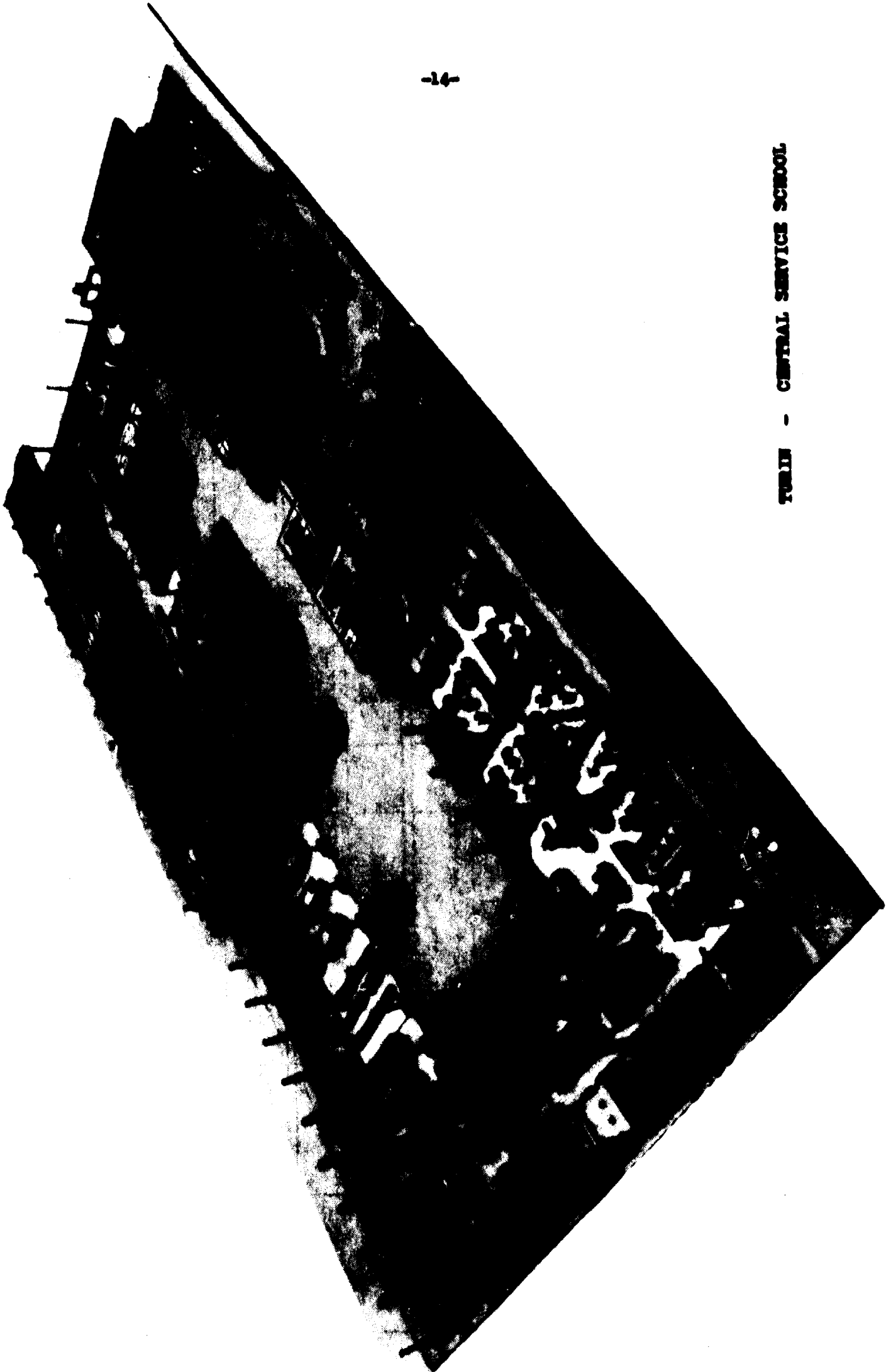


DIAGRAM OF FIAT SERVICE NETWORK



CONTINENT	SALES 1969	SERVICE CENTERS	No.	SERVICE AREA M ²	TECHNICAL PERSONNEL No.	TOTAL PERSONNEL No.	TOTAL PERSONNEL A + B
EUROPE (Italy included)	1.373.490	A Branches	71	615.000	1.370	8.800	80.600
		B Dealers - Sub-Dealers Aut. Workshops	7.060	3.500.000	13.700	71.800	
AFRICA	26.077	A Branches	15	44.000	90	978	5.178
		B Dealers- Sub-Dealers Aut. Workshops	370	110.000	360	4.200	
AMERICA	58.563	A Branches	7	23.000	95	560	6.060
		B Dealers - Sub-Dealers Aut. Workshops	970	300.000	950	5.500	
ASIA	13.829	A Branches	-	3.500	10	30	4.550
		B Dealers - Sub-Dealers Aut. Workshops	200	60.000	61	4.520	
OCEANIA	7.999	A Branches	1	1.200	3	20	1.170
		B Dealers - Sub-Dealers Aut. Workshops	180	55.000	330	1.150	
TOTAL	1.481.958	A Branches	94	686.700	1.568	10.388	97.558
		B Dealers - Sub-Dealers Aut. Workshops	8.760	4.025.000	15.970	87.170	

TURIN - CENTRAL SERVICE SCHOOL

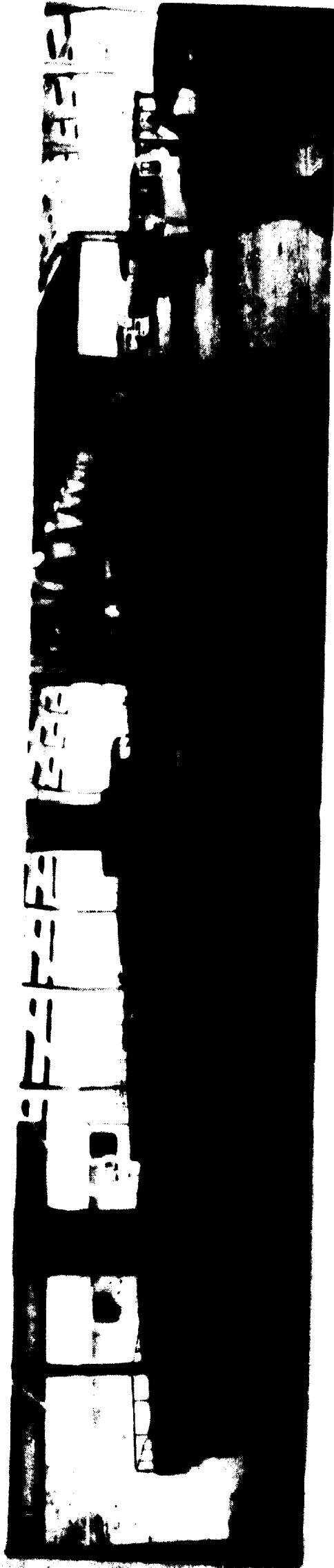




BRANCH SERVICE SCHOOL

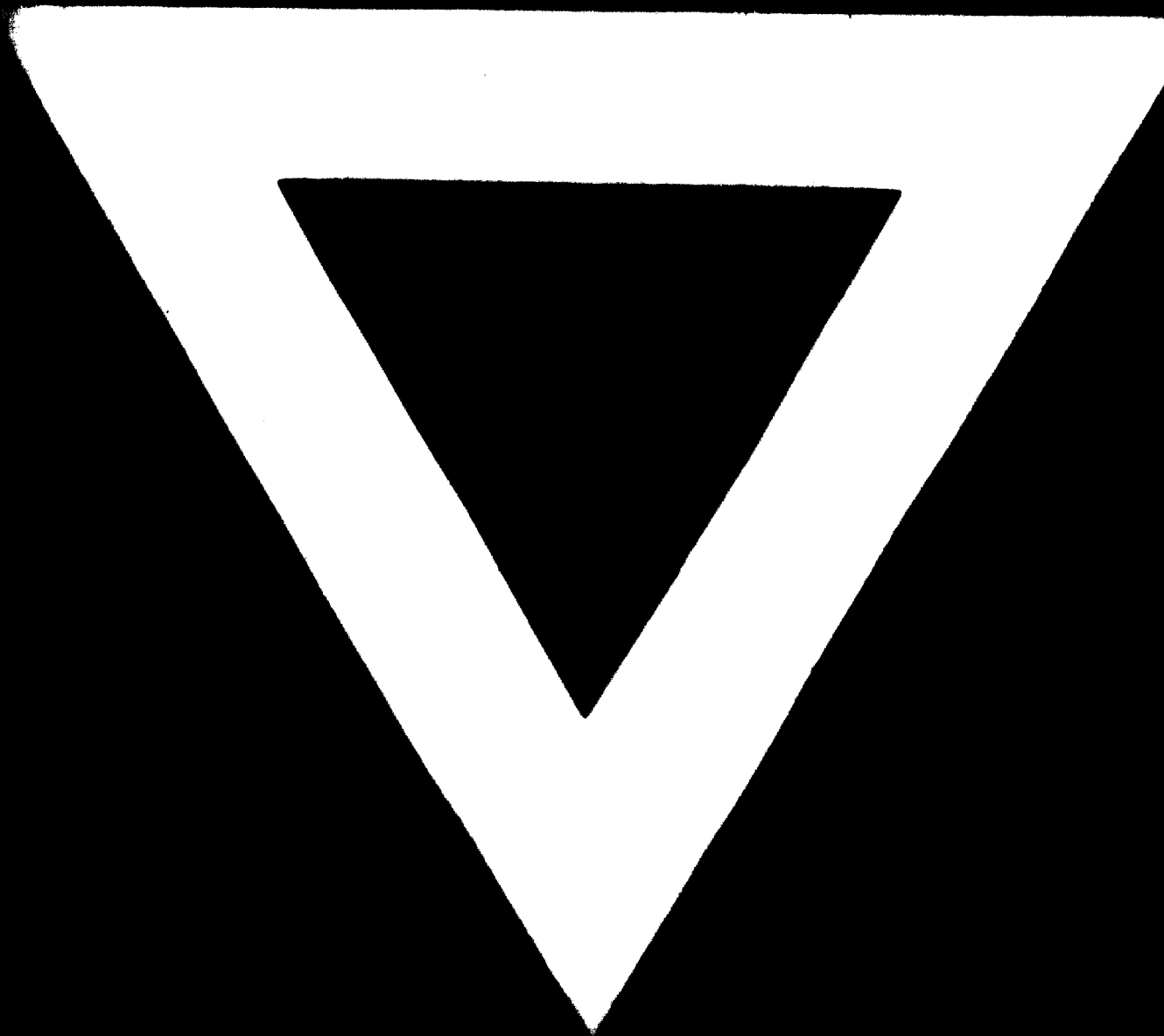


BRANCH SERVICE SCHOOL



DAD-22-SALAH - FIAT SERVICE CENTER





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