TARIFF COMMISSION
GOVERNMENT OF INDIA

REPORT
ON
The Continuance of Protection to the Diesel Fuel Injection Equipment Industry

BOMBAY, 1963

PRINTED IN INDIA BY THE MANAGER GOVERNMENT OF INDIA PRESS NASIK AND PUBLISHED BY THE MANAGER OF PUBLICATIONS DELHI-6
1964

Price : (Inland) Rs. 4·50 *(Foreign)* 10*s.* 6*d. or* 1 $ 62 *Cents.*

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GOVERNMENT OF INDIA

MINISTRY OF INTERNATIONAL TRADE

New Delhi, the 25th November, 1963

RESOLUTION

Tariffs

No. 8 (2)-Tar/63.—The Tariff Commission has submitted its Report on the continuance of protection to the Diesel Fuel Injection Equipment Industry on the basis of an inquiry undertaken by it under sections 11(e) and 13 of the Tariff Commission Act, 1951 (50 of 1951). Its recommendations are as follows :—

(1) Single Cylinder Fuel Injection Pumps, Nozzle-holders and components no longer need protection after the expiry of the present period of protection ending 31st December, 1963.

(2) Protection to multi-cylinder pumps should be continued up to 31st December, 1967 in view of the production of diversified components and in the interest of protected Automobile Industry. The continuance of protection to Multi-cylinder pumps will be reviewed along with Automobile Industry which is due to expire on the 31st December, 1967.

(3) In view of the importance of providing indigenous raw material to light engineering industries, Diesel Fuel Injection Equipment Industry might be given priority of supplies from the new alloy steel plants.

(4) In order to ensure general acceptance of quality of their products manufacturers should adopt I.S.I. Certification Marks Scheme.

(5) In the spirit in which the industry has already made price reduction, it should continue to serve the consumer by offering further reductions.

(6) As an industry which has developed by protection, it should spare no pains to maximise output and meet all current demand avoiding delays which are stated to handicap public utility undertakings.

2. Government accept recommendation (1). Necessary legislation will be undertaken in due course.

3. Government have taken note of recommendation (2).

4. Government have also taken note of recommendation (3) and steps will be taken to implement it as far as possible.

5. Attention of the Diesel Fuel Injection Equipment Industry is drawn to recommendations (4) to (6).

ORDER

ORDERED that the Resolution be published in the Gazette of India and a copy thereof communicated to all concerned.

(C. S. RAMACHANDRAN)
Joint Secretary to the Govt. of India.

CONTENTS

REPORT ON THE CONTINUANCE OF PROTECTION TO THE DIESEL FUEL INJECTION EQUIPMENT INDUSTRY

1. The claim of the diesel fuel injection equipment industry to protection and assistance was first examined by us in 1954. Earlier, in our Report on the Automobile Industry (1953) we had decided to examine separately the question of granting protection to the automobile ancillary industries. On our recommendation Government granted protection initially up to 31st December 1956 to the following items of fuel injection equipment, namely, (a) single cylinder fuel injection pumps for stationary diesel engines and component parts thereof excluding elements and delivery valves, (b) nozzle-holders with a clamping capacity up to 1 inch clamping diameter for nozzles (atomisers) for use on stationary as well as automobile diesel engines and component parts (excluding nozzles) thereof. The rate of protective duty levied on these articles was 60 per cent *ad valorem* and in certain cases components of U.K. origin were subjected to a preferential duty of 52½ per cent. Protection was later extended up to 31st December 1957. After a second inquiry undertaken by us in 1957, Government continued protection to this industry for a further period of two years at the then existing rates of duty. As recommended by us the scope of protection was also extended to include elements, delivery valves and nozzles. In 1959 we again examined the case and recommended continuance of protection for a further period of four years ending 31st December 1963, but at a reduced rate of 25 per cent *ad valorem* standard, having regard to the reduction in fair prices of the indigenous product. Government gave effect to this in the Indian Tariff (Amendment) Act of 1959 and a reduced preferential duty on nozzle-holders and its components at 17½ per cent *ad valorem* was allowed.

Previous tariff inquiries

2. Protection granted to this industry is due to expire of 31st December 1963. The present inquiry is, therefore, undertaken under Section 11(e) read with Section 13 of the Tariff Commission Act, 1951 which empowers us to review the case and make suitable modifications.

Present inquiry

3.1. Detailed questionnaires were issued to producers, importers and manufacturers of stationary engines and automobiles on 5th January 1963. Associations of engine and automobile manufacturers and the motor merchants and dealers' associations and others interested in the inquiry were asked to submit memoranda on the various aspects of the industry covered in our questionnaires. The Department of Technical Development (previously Development Wing, hereafter called D.T.D.) was requested to furnish a detailed memorandum on the present position and problems of the industry. The Directors of the National Physical Laboratory of India, New Delhi, the National Metallurgical Laboratory, Jamshedpur and the Indian Institute of Science, Bangalore were addressed for information regarding the facilities that are available at their respective institutions for research and development work on diesel

Method of inquiry

fuel injection equipment. The Indian Standards Institution, New Delhi was asked to apprise us of the progress made by it in formulating standard specifications for important components of diesel fuel injection equipment. Letters were addressed to the Director General of Supplies and Disposals, Ministries of Defence and Irrigation & Power and the Railway Board for eliciting information on the purchasing policy followed by their respective departments and their views on quality and availability. Various State Governments were requested to furnish memoranda on the industry in case they were interested either as producers or consumers of the protected articles. Data regarding c.i.f. prices, landed costs, etc. of imported items of diesel fuel equipment were obtained from the Collectors of Customs at the ports of Bombay, Madras, Calcutta and Cochin. The High Commission of India in U.K. and the Indian Embassy in West Germany were also requested to furnish information regarding f.o.b. quotations and the ruling prices of comparable products manufactured in those countries.

3.2. A list of parties to whom questionnaires/letters were issued and from whom replies have been received is given in Appendix I. A list of factories visited by us and Officers of the Commission in connection with this inquiry is given in Appendix II. The costs of production of the different components of diesel fuel injection equipment manufactured by Motor Industries Co. Ltd., Bangalore, (MICO) (a unit which had been successively examined in previous enquiries), were examined by our Cost Accounts Officer during January 1963. A copy of the cost report which is a combined one for diesel fuel injection equipment and automobile spark plugs is being sent to Government as a confidential enclosure to this Report. A public inquiry into this industry was held on 27th March 1963 followed by cost discussions with representatives of MICO on 28th March 1963. A list of invitees who attended the inquiry is given in Appendix III.

Scope of the inquiry

4.1. At the time of the last inquiry, the scheme of protection covered single cylinder fuel injection pumps for stationary diesel engines, component parts of the pumps, nozzle-holders with clamping capacity up to 1" clamping diameter for nozzles, nozzles for stationeary and automobile diesel engines and component parts of nozzles. Multi-cylinder pumps were not included in the scope of that inquiry as MICO's production of these pumps and their indigenous content were small. MICO's production of these pumps which are of the in-line type as distinguished from the distributor type now becoming popular has risen from 11,672 in 1959 to 27,815 in 1962 and the indigenous content of the pumps has also risen from about 55 per cent to about 80 per cent.

4.2. There are some importantdifferences between the in-line and distributor type of multicy-linder pumps. The in-line pump assembly has an aluminium cast body in which the injection elements and other moving parts are set in a line. There is an injection element for each outlet, that is, each engine cylinder. The injection elements are actuated

by the camshaft of the pump which also works the integrated feed pump assembly. The speed governor, as a complete unit, is attached to either end of the injection pump and the injection timing device as a separate unit is mounted on to the camshaft. The basic difference of distributor type pump is that it has only one injection element (compared to one for each cylinder in case of the in-line pump), for example, a six cylinder engine 'on in-line' pump will have six elements whereas a distributor type pump will have only one element coupled with the distributor head which feeds fuel to all the cylinders. The injection element is activated by means of a cam plate mounted on the driving shaft of the pump. The unit has built into it a speed governor, a feed pump and an injection timing device all forming parts of the assembly. The whole pump assembly is smaller in size and weight and comprises fewer components which are different in design from those used in in-line pumps.

4.3. The representatives of Bosch, who are collaborators of MICO, nevertheless agreed that there will be continued demand for in-line type of pumps which could give as satisfactory performance as the distributor pump. While the economy of material due to smaller size and weight would not according to them make any significant difference in over-all cost of the pump or engine performance the cost of the distributor pump might even be higher if it is to have a built-in timing device.

4.4. Views of the manufacturers regarding extending the scope of the present inquiry were invited in our questionnaire. MICO, which is the only producer of multi-cylinder pump in the country, has urged that there is a trend in the western countries in the past few years to switch over from the 'in-line' type pumps to the distributor type pumps. It expects the same development to take place in India and has already received enquiries for distributor type pumps from one of its customers, namely, Simpson & Co. Ltd., Madras, which has plans to manufacture a new type of Perkins 6 cylinder engines. As manufacturer MICO expressed its readiness to meet in time any demand for this type of pump from the indigenous automobile industry. It has definitely expressed itself against extending the scope of the present inquiry to include multi-cylinder pumps as it considers that a lot of new machinery may have to be installed for this purpose and some existing special machinery may be rendered surplus. Fuel Injections Ltd., Bombay also agreed that distributor type pumps will be the pumps of future though it has at present no plan to manufacture them.

4.5. It appears to us that though multi-cylinder pumps are not included in the specific protected category covered by item 75(18) of I.C.T. to the extent they are largely used on automobiles, they will be covered by item 75(11) (i) of I.C.T. The protective duty of 25% on the latter item has been raised to 50% by the Finance Bill, 1963 in pursuance of a policy to enhance levies on motor vehicle parts. We had no occasion to report on this protected item. In view of the larger production and higher indigenous content of multi-cylinder pumps now we have decided to include them in the scope of our inquiry.

Implementation of the Commission's Recommendations

5.1. In addition to the main recommendation regarding continuance of protection to the industry, we had *inter alia* made certain auxiliary recommendations. The extent to which they have been implemented by the respective interests concerned are surveyed :—

5.2. *Recommendation :*

"The Development Wing should furnish to the domestic manufacturers of fuel injection equipment a list of fleet owners to whom actual users' licences for component parts of fuel injection equipment are being issued and the manufacturers should furnish to the fleet owners once in six months a complete list of all the items which they manufacture".

MICO has stated that all the leading fleet owners including various State Transport Organisations are already in possession of its literature and spare parts folders indicating items manufactured by it. As they are on the company's mailing list they are kept posted with any development and addition to its present manufacturing programme.

5.3. *Recommendation :*

"The representation of Motor Industries Co. Ltd., regarding issue of import licences for raw materials may be considered favourably".

We have been informed by the Ministry of Commerce and Industry that adequate import licences for raw materials required by MICO have been recommended by the Development Wing from time to time. Nevertheless from December 1962 the producers have represented acute difficulties in receiving supplies which used to be imported through their foreign collaborators.

5.4. *Recommendation :*

"The Indian Standards Institution should examine the various suggestions for standardisation referred to in the Report in consultation with the interests concerned".

The I.S.I. has confirmed that action is being taken on the above recommendation and a standard for single cylinder fuel injection pump has been finalised and published (IS:1543-1960). The specifications meet the basic requirement of standardising dimensions essential for ensuring inter-changeability between fuel pumps of different makes. The I.S.I. has also taken up work of standardising injection nozzles and nozzle-holders. Standard specifications for other items are expected to be formulated shortly.

5.5. *Recommendation :*

"Fuel Injection Ltd., should further strengthen its inspection arrangements and carry out adequate tests before delivery of its products to customers".

The unit has informed that it is following very strictly the inspection and test procedures adopted by its technical collaborators M/s. Bryce Berger Ltd. of U.K. Assurance is further given that all its products are tested and inspected hundred per cent before they are delivered to customers. The matter is further discussed in paragraph 11.2.

5.6. *Recommendation :*

> "Motor Industries Co. Ltd. must take steps to pass on to the consumer and the country in general a substantial portion of the benefit conferred on it by protection".

Since our last inquiry MICO has effected successive reduction in the list prices of all its products on four occasions during the last three years. The particular stages and rate of reduction along with other necessary details are given in paragraph 19.2 and Appendix IV. It has also informed that a price reduction for 1963 is under consideration.

Present position of the industry

6.1. As in the past, three units, namely, Motor Industries Co. Ltd., Bangalore (MICO), Fuel Injections Ltd., Bombay and Kulko Engineering Works Ltd., Ichalkaranji (Dt. Satara), continue to be the only manufacturers of diesel fuel injection equipment in the country.

6.2. *Motor Industries Co. Ltd., Bangalore.*—The company has substantially expended its capacity in regard to automobile spark plugs and fuel injection equipment and considerably diversified its production of the latter. In addition to the protected items of fuel injection equipment, MICO also produces multi-cylinder fuel pumps, fuel filters and filter inserts. The average number of workers employed by it in the production of fuel injection equipment has increased from 852 in 1959 to 1971 in 1962. Its paid-up capital has been nearly doubled from Rs. 1,16,66,450 in 1959 to Rs. 2,25,00,000. Its third phase of expansion involving an investment of about Rs. 1.5 crores is implemented only to the extent of 35 per cent as it considers that expansion of output, particularly of multi-cylinder pumps, has to tie up with the automobile engine programme of the main producers. There has been no change since the last inquiry either in the management of the company or in the technical collaboration and financial participation of its foreign associates, namely, Robert Bosch GmbH of West Germany. The company's progress will be further apparent from the fact that its sales turnover in 1961-62 was about Rs. 5 crores as against about Rs. 3 crores during 1959-60, sales of fuel injection equipment comprising about 94 to 95 per cent of its activity in 1961-62. The net profit, after taxation made by the Company during the last three years has been Rs. 38.64, Rs. 66.65 and Rs. 81.89 lakhs respectively and the rates of dividend declared were 10.5, 16.8 and 16.1 per cent respectively.

6.3. *Fuel Injections Ltd., Bombay.*—At the time of the last inquiry, the company was producing only elements and nozzles. It commenced production of single cylinder pumps, nozzle-holders and delivery valves

in 1960. Its total paid-up capital is Rs. 37,40,700, the technical collaborators, Bryce Berger Ltd. of U.K. also having equity participation to the extent of Rs. 10 lakhs. Its present plant is situated at Santa Cruz in the premises of Standard Batteries where it is crowded for want of space. The company's factory at Thana is stated to be complete and it intends to shift shortly to the new site where it can expand its output to licensed capacity. The number of workers employed by it has increased from 141 in 1959 to 191 in 1962. It has made only a nominal profit during the last two years.

6.4. *Kulko Engineering Works Ltd., Ichalkaranji, (Dt. Satara).*—It is producing fuel injection equipment only for its own engines whose output ranged between 3200 in 1960 to 1000 only in 1962. It now obtains some components like nozzles, plugs, etc. from other producers. It is stated to be a small scale unit which is not registered with D.T.D. and has not furnished detailed particulars like other producers.

Capacity and future expansion

7.1. Since the last inquiry there has been a steep rise in capacity for the manufacture of all the items of fuel injection equipment including multi-cylinder pumps. The following table in which certain adjustments have been made as explained later, gives the annual installed capacity at the time of the last inquiry, the present licensed capacity and installed capacity as assessed by us after consulting D.T.D. At the time of last inquiry the capacity was indicated on single shift basis which was also in accordance with the practice of the Development Wing at that time. Since 1962 the D.T.D. has revised its procedure of indicating capacity from single shift basis to that of maximum utilisation of plant and machinery.

7.2. There was some divergence in the figures of capacity reported to us. On the basis of its past performance MICO's capacity figures for single cylinder and multi-cylinder pumps which were higher than D.T.D.'s figures were found to be realistic, but in the case of the rest of the items, figures furnished by D.T.D. seemed to take into account the past performance. For delivery valves, elements and nozzles which also form part of pumps and nozzle-holders assembly, to avoid inflating capacity (since capacity for pumps and nozzle-holders should be taken as that of complete assemblies inclusive of all components), the separate capacity of delivery valves, nozzles and elements has been suitably reduced in the above statement to the extent of spares and components already included in the pumps or nozzle assemblies. Since the installed capacity of Fuel Injections Ltd. indicated by D.T.D. is the equivalent of licensed capacity, it seems to be on the high side from its past performance. Suitable changes are made in the above statement. Only on shifting to Thana and by the end of 1964 when it intends to complete its expansion plan, could this unit expect to reach the installed capacity indicated by the D.T.D.

7.3. *Future expansion :*

7.3.1. MICO has indicated that, in connection with the implementation of its expansion, it has made arrangements for raising of foreign

Licensed and Installed Capacity of the Industry

(Figures in numbers)

Sl. No.	Product	Mico			Fuel Injections Ltd.			Total
		Installed capacity in 1959 as given in last Report (on single shift basis)	Licensed capacity as given by D.T.D.	Installed capacity adopted for the inquiry period	Installed capacity in'59 as given in last Report (on single shift basis)	Licensed capacity as given by D.T.D.	Installed capacity adopted for the inquiry period	installed capacity of the industry adopted for the inquiry period
1	Single cylinder pumps . .	12,000	72,000	69,600	..	36,000	10,800	80,400
2	Multi-cylinder pumps . .	6,600	60,000	30,000	..	..	..	30,000
3	Nozzle-holders	48,000	432,000	192,000	..	36,000	10,800	202,800
4	Nozzles	72,000	1,199,400	549,000	36,000	120,000	30,000	579,000
5	Elements	66,000	1,056,000	450,000	14,400	96,000	14,400	464,400
6	Delivery valves	66,000	1,056,000	450,000	..	96,000	14,400	464,400

exchange, completed a building and installed capital equipment worth Rs. 54·50 lakhs. It has, however, postponed further action against the licence for its third phase of expansion. In the absence of a Government decision on the engine programme of the units in the automobile industry, it is unable to anticipate the requirements of distributor type pumps, a completely new product which requires special machinery. Fuel Injections has indicated that it has obtained an import licence for Rs. 10 lakhs and the equipment received will be installed in its new factory at Thana to be completed by the end of 1964.

7.3.2. Two new units have been licensed. Of these, Jai Bharat Trading Co., Delhi which has a licence since December 1960 for 42,000 each of nozzles delivery valves and elements, has not made any progress. The other prospective producer, S. K. Injections Pvt. Ltd., Bombay, which proposes to locate its factory at Rajkot, holds a licence for 10,080 pumps, 18,000 nozzle-holders and 250,080 each of nozzles, delivery valves and elements. It has stated that its collaboration with a Czechoslovak firm (Motokov of Praha) has been approved by Government; but it has not yet received the import licence for plant and machinery. It does not appear possible that the capacity of the two new producers will be established within three years.

7.3.3. If no tangible progress is reported by the new units within a reasonable period, we suggest that Government may accord priority to the expansion programmes of existing units. Their capacities can be raised more quickly and without much additional capital cost or foreign exchange. This industry is one where economies can accrue from mass production.

Production

8. The following table shows the details of production of diesel fuel injection equipment since 1959. During 1960 production of all items showed a steep rise and particularly in the case of multi-cylinder pumps the production almost doubled. The same upward trend continued in 1961. But during the year 1962, production of single cylinder pumps and nozzle-holders declined compared to 1961 due, it was stated, to a fall in production of diesel engines used for agricultural operations. The performance in respect of all other items was better than in the previous year.

Statement showing production of Diesel Fuel Injection Equipments during the years 1959 to 1962

(In numbers)

Sl. No.	Products	Mico				Fuel Injections Ltd.				Total			
		1959	1960	1961	1962	1959	1960	1961	1962	1959	1960	1961	1962
1	Single cylinder pumps.	48,556	69,707	68,527	62,021	..	339	4,135	1,255	48,556	70,046	72,662	62,276
2	Multi-cylinder pumps.	11,672	22,774	26,965	27,815	..	..	..	..	11,672	22,774	26,965	27,815
3	Nozzle-holders . .	118,343	186,376	219,185	205,560	..	1,026	4,573	2,134	118,343	187,402	223,758	207,694
4	Nozzles . . .	80,003	182,118	217,253	309,736	30,265	26,339	18,271	22,071	110,268	208,457	235,524	331,807
5	Elements . . .	118,102	99,607	200,124	388,260	10,133	16,512	27,260	21,097	128,235	116,119	227,384	409,357
6	Delivery valves . .	107,583	113,324	205,807	468,183	1,077	7,914	1,600	6,378	108,660	121,238	207,407	474,561

NOTE.—For reasons stated in para 7·2 components included in assemblies (items 1, 2 & 3) are not included in figures of spares (items 4, 5 & 6).

Domestic demand

9.1. In our last Report (1959) the then demand for the various items of diesel fuel injection equipment was estimated as per summary below. (*See* also details given in Appendix III of that Report). It was expected that the demand would increase by about 30 per cent over the next three years.

(In Nos.)

Items	Original equipment	Replacement purposes	Total
Single cylinder pumps	40,000	9,000	49,000
Multi-cylinder pumps	21,500	3,975	25,475
Nozzle-holders	166,000	20,400	186,400
Nozzles	166,000	510,000	676,000
Elements	166,000	378,000	544,000
Delivery valves	166,000	340,200	506,200

9.2. *Current demand*

9.2.1. The D.T.D. has suggested that the current demand in respect of most of the items of fuel injection equipment for an year may be taken as about equal to the production during the previous year. It has expressed its inability to furnish the break-up of figures for the current period as it has done for future. MICO has made a detailed estimate of demand for original equipment on the basis of stationary engines and vehicular engines produced in the country every year and for replacement on the basis that requirements of 1.2. million cylinders existing in the country as on 1st January, 1962 have to be met. The continued demand for in-line pumps is envisaged. Its estimates of cylinders correspond roughly to the figures arrived at on the basis of the diesel vehicles on the road as furnished by the Ministry of Transport and Communications* and adding thereto the number of stationary engines. The service life adopted for nozzles and delivery valves is the same as in the last inquiry and for elements three years, instead of three and two-and-a-half years respectively for stationary and vehicular engines. With regard to pumps and nozzle-holders which have a longer life, it was stated by MICO and supported by the consumers that demand as spares is insignificant except for small quantities needed as stand-by spares by fleet-owners and transport undertakings. The demand for 1962 as estimated by D.T.D. and the current demand (1963) as estimated by

*Ministry of Transport and Communications has given the following estimates of diesel vehicles on road at the end of 1962 :—

	Nos.
Buses	43,400
Goods vehicles	99,000
Miscellaneous vehicles	17,700
TOTAL	160,100

MICO are compared in the following statement with the production in 1962 :—

(In Numbers)

Items	Estimates of Demand				Industry's production during 1962
	D.T.D. (for 1962)	MICO (for 1963)			
		For original equipment	For spares	Total	
Single cylinder pumps .	72,662	53,000	10,000	63,000	63,276
Multi-cylinder pumps .	26,965	32,000	500	32,500	27,815
Nozzle-holders . .	223,700	224,400	12,000	236,400	207,694
Nozzles . . .	235,524	224,400	600,000	824,400	331,807
Elements . . .	227,384	231,500	400,000	631,500	409,357
Delivery valves . .	207,407	231,500	360,000	591,500	474,561

9.2.2. The present demand (1963) for single and multi-cylinder pumps and nozzle-holders furnished by MICO corresponds nearly to the total indigenous production during 1962 which as advised by D.T.D. may be considered as an indicator of the demand for the following year. But for the components adjustments have to be made to segregate spares (not going into assemblies but used as spares) for reasons explained in paragraph 7.2. As imports of the protected items were negligible and there did not appear to be a large element of unsatisfied demand the adjusted figures of production for 1962 can be adopted as effective demand for 1963.

9.3. *Future Estimates*

9.3.1. For future estimates of demand, as stated earlier, the D.T.D. has furnished the figures for the end of 1965-66. These are based on an assessment done in 1961 by the Development Council for Automobiles, Ancillary and Transport Industries. These estimates were discussed at the public inquiry. The representative of the D.T.D. stated that the emergency has called for an increase of 30 per cent in the existing road vehicles. The off-take of diesel fuel injection equipment is however linked up with the attainment of targets of automobile production and the extent of increase in dieselisation. Any delay in the attainment of these targets will be reflected in the estimates which may have to be put back to 1966 or beyond. The consensus of opinion in the course of the public inquiry, which took note of the inhibiting factors at present affecting the development of road transport, was in favour of making some reduction in the demand figures as worked out by the Development Council. The representative of D.T.D. was agreeable to an adjustment as the development of targeted estimates of automobiles had not kept pace with earlier forecast. Taking note of all these we have attempted a re-assessment to fix a realistic demand for the next two or three years based on recent production trends and off-take of the diesel engines and fuel injection equipment. We have given the estimates for 1965 in the statement following. This target may be expected to be reached by equal stages from the assessment of the present demand.

9.3.2. The following table indicates our assessment of the current demand for 1963 and the estimated demand for 1965 alongside the original estimate of the D.T.D.

(In Numbers)

Items	Commission's assessment of demand		D.T.D.'s estimate of demand
	1963	1965	1965-66
1. Single cylinder pumps	65,000	78,000	88,000
2. Multi-cylinder pumps	30,000	50,000	90,000
3. Nozzle-holders	240,000	350,000	578,400
4. Elements	450,000	550,000	1,200,000*
5. Delivery valves	500,000	650,000	1,200,000*
6. Nozzles	500,000	650,000	1,940,000*

10. Raw materials and components

10.1. The main raw materials required by the industry for the manufacture of protected items are listed below :—

1. Bright drawn round and hexagonal bars of the following quality :—
   (a) free cutting;
   (b) case hardening; and
   (c) hardening alloy;
2. Case hardening hot rolled mild steel bars;
3. Low carbon steel forgings (for nozzle-holders body);
4. Castings of special alloy cast iron (for single cylinder pump housing); and
5. Free cutting bright drawn brass bars.

The share of these items in the cost of raw materials and of the imported and indigenous components in the material costs for single cylinder pumps and nozzle-holders has been assessed. Round and hexagonal steel bars account for about 35 per cent of material cost for single cylinder pumps and 20 per cent for nozzle-holders. Similarly, steel forgings account for about 65 per cent of cost of nozzle-holders and castings about 33 per cent for single cylinder pumps. Brass bars will constitute about 11 per cent of cost for pumps. Over all for the fuel injection equipment imported components would constitute 12 to 30 per cent and locally purchased components under 2 per cent of material costs.

10.2. The bulk of the requirements of raw materials is in the form of bright drawn steel bars—alloyed and unalloyed, which are still being imported. There is yet no commercial production of alloy steels like free cutting, heat resisting and other types of steel required by the industry. Till they are produced in the public sector, steel plants the chances of

*D.T.D.'s estimate of demand for components, items 4, 5 & 6, include those which are already included under complete assemblies under items 1, 2 & 3.

their indigenous production are remote. In view of the importance of providing indigenous raw material to light engineering industries we recommend that they might be given priority of supplies from the new alloy steel plants. However, there are now certain units in India which can bright draw imported hot rolled material and have capacity to draw rounds, hexagons, squares, etc. MICO has stated that it is ready to render all possible technical assistance to these units and try to obtain locally as much of raw materials as possible. The steel forging and iron castings used are obtained by both producers locally from different manufacturers. There has been a rise in percentage of indigenous raw materials used in the total cost of raw materials to the extent of, from 36 to 67 per cent for single cylinder pumps including elements and delivery valves; from 63 to 90 per cent for nozzle holders; and from 8 to 12 per cent for elements, delivery valves and nozzles. The share of the indigenous raw materials is substantial in the case of single cylinder pumps and nozzle-holders but is very small in the case of delivery valves and nozzles. But in the overall cost of fuel injection equipment this element is not significant.

10.3. The price of indigenous free cutting and mild steel bright bars according to MICO, is slightly higher than that of the imported variety. MICO states that when bars are bright drawn locally the quality is poorer. One of the producers of bright drawn bars has represented that, as it is still dependent on imported steels, it is unable to work to more than ten per cent of its capacity and its processing is therefore not yet economic. According to MICO the quality of castings and forgings which are now procured indigenously is also not consistent and varies from supplier to supplier.

10.4. Since the last inquiry substantial progress has been made by MICO in the matter of obtaining finished components from local sources. It is still importing certain finished items like grooved dowel pins, grooved pins, packing rings and spring rings for single cylinder pumps and regulating bushes for elements, delivery valves and nozzles. It has claimed that it is manufacturing all the components which is possible for it to manufacture and imports only proprietory parts. In the case of single cylinder pumps, it has completed its phased manufacturing programme and in the case of nozzle-holders all the components are being produced. The value of items being imported for single cylinder pumps is negligible, being less than Re. 0·20 per pump. Fuel Injections Ltd. has not made any imports of semi-finished and finished components except for springs for delivery valves and nozzle-holders. While the quality of bought out components is said to be satisfactory the producers have a feeling of uncertainty with regard to many suppliers as the delivery schedules also are not frequently honoured.

10.5. MICO has urged that while it always used to receive licences for import of raw materials from West Germany where the material could be inspected and tested by Bosch before despatch to India, it now has encountered difficulty when the import licences for the period April 1962 onwards for alloy steel bars and a few items of steel forgings, steel sheets, steel wire, etc. were issued to it against D.L.F. or from rupee

payment areas. While some interim relief has no doubt been allowed to avoid abrupt change in import arrangements, the question of procurement difficulties and higher costs may have to be taken into account for continuing the arrangement by the authority concerned.

11. Quality and standards

11.1. As in the past, the consensus of opinion of consumers of products of MICO, which supplies the bulk of the country's requirements, was one of general satisfaction. According to them MICO has been maintaining the quality of its products. The unit has, however, reported certain isolated and stray instances of complaints regarding alleged short life, which on examination were mostly traced to insufficient filtration of diesel fuel on account of the use of sub-standard filter elements. For guaranteeing life, careful dust-free maintenance of diesel fuel equipment is necessary and only use of a good filter would secure proper functioning and life of precision items like nozzles, elements and delivery valves. The company states it had satisfactory endurance tests for its products conducted by the Indian Institute of Science, Bangalore. It pleads that compared to its production, the complaints received from a negligible percentage and in order to maintain cordial business relationship with customers it accepts some complaints under warranty arrangements. A few complaints have been received about the quality of its products by Fuel Injections Ltd., also. Since short life of nozzles was attributed to the steel used, it says it has changed the steel used for nozzle body as well as the needle. This unit gives an unconditional guarantee to replace free of cost any item which is said to have been found unsuitable by users or to have failed prematurely.

11.2. MICO has indicated that it has ample facilities for testing of raw materials in its well-equipped chemical, physical and metallurgical laboratories. The components and finished parts before being sent to stores are checked at every stage according to specified inspection layouts. MICO has a large number of special test equipments designed and developed by Bosch and its products are subject to dimensional and functional tests as well as endurance tests from time to time through the stages of production. Samples of products are also sent abroad for testing at the factory of its collaborators. MICO has introduced statistical quality control measures as laid down by its collaborator, which include floor inspection, checking of specifications and quality, performance and endurance tests including destructive tests, examination of tools and gauges and a system of second check over inspection tests. Fuel Injections Ltd., the other producer, is unable to introduce like facilities in its present cramped location; but it avers that its products are tested 100 per cent and inspected before delivery to the customers and it is following strictly the inspection and test procedures laid down by M/s. Bryce Berger, its U.K. collaborators.

11.3. The D.T.D. has informed that no complaints have been received by it about the indigenous products under review. The Indian Institute of Science, Bangalore has expressed appreciation of the internal combustion engine equipment and said that to a large extent the quality of products from indigenous manufacturers is up to the mark.

11.4. The Indian Standards Institution has informed that specification (IS:1543-1960) for single cylinder fuel injection pumps was issued since our last inquiry. It states that work in respect of nozzles and nozzle-holders has been taken up as also drawing of standards for elements and delivery valves and these may be completed shortly. The I.S.I., however, pointed out that no indigenous manufacturer of fuel injection equipment has yet taken up its certification mark. MICO has informed us that its products are manufactured strictly in accordance with the specifications laid down by Bosch and claims that most of its single cylinder pumps conform to the published I.S.I. specifications. Fuel Injections Ltd., has also informed us that it follows the British standard specifications adopted by its collaborators. It has expressed the view that there is occasionally some consumer resistance from "tough customers". We would like to impress upon the manufacturers the desirability of adopting the certification mark scheme in order to ensure general acceptance of quality of their products.

12. Import control policy and imports

12.1. *Import control policy.*—The quota for established importers for diesel fuel injection equipment was fixed at 50 per cent general and 50 per cent soft since October 1959—March 1960 licensing period. The distinction between hard and soft currency areas was removed from April-September 1961 licensing period. The quota has been revised as valid for all countries. In the current licensing period, April 1962—March 1963, the quota was reduced to 45 per cent and the reduced quota was further cut by 50 per cent in June-December 1962 period due to foreign exchange restrictions.

12.2. The value of imports of single cylinder pumps has declined from Rs. 4.06 lakhs in 1959 to Rs. 1.44 lakhs in 1962. Similarly, the value of imports of nozzle-holders, etc. has also decreased from Rs. 7.14 lakhs to Rs. 3.98 lakhs in 1962. The main sources of imports are the U.K. and U.S.A. in the case of single cylinder fuel injection pumps and U.K., West Germany and Italy in the case of other pumps, nozzle-holders, etc. The following table shows the total imports of single cylinder fuel injection pumps and nozzle-holders, etc. during each of the years 1959, 1960, 1961 and 1962. Import statistics of multi-cylinder pumps as such are not available.

Year	Single cylinder fuel injection pumps		Nozzle-holders, etc.	
	Quantity (Nos.)	Value (Rs.)	Quantity (Nos.)	Value (Rs.)
1959	4,175	405,801	47,089	713,522
1960	7,524	290,495	19,759	543,644
1961	5,056	266,154	8,940	270,063
1962	1,031	143,684	17,635	397,654

12.3. The producers have expressed satisfaction with the import control policy as the restrictions on imports of all types of fuel injection

equipment manufactured by them have given adequate protection. A few consumers and importers have however requested liberalisation of import restrictions in cases where the equipment is of specialised type and not interchangeable with indigenous makes, *e.g.*, components for certain types of CAV injection and General Motors and Cummins Diesel engines.

Exports

13. There have hardly been any exports except a small shipment by MICO in 1962 to South Rhodesia. This unit has explained that there is a fundamental difficulty in exporting automobile spare parts bearing brand names, as the customer is generally inclined to purchase replacement parts of the same make as originally fitted to his vehicle. Indian automobile manufacturers have yet to open out a market by first exporting their vehicles. MICO has, however, succeeded in securing an export order through its principal and is also offering an incentive in price for exporters of diesel engines. These are all steps to be welcomed. D.T.D. considers that with the expansion of the fuel injection equipment industry and the coming into production of new units which have been licensed, there may be a certain amount of surplus over the entire indigenous demand which could be diverted for exports. In view of the prices of MICO products already bearing comparison with domestic prices of such products in other countries, for example Germany, the export potential of this industry might develop.

Existing rate of duty

14. The protected items of diesel fuel injection equipments are assessed to duty under item No. 75 (18) (a) and (b) of the First Schedule to the Indian Tariff Act, 1934. The current rates of duty are given below :

Item Number	Name of article	Nature of duty	Standard rate of duty	Preferential rate of duty if the article is the produce or manufacture of			Duration of protective rates of duty
				The United Kingdom	A British Colony	Burma	
75(18)	(a) Single cylinder fuel injection pumps for stationary diesel engines and component parts of such pumps.	Protective	25 per cent *ad valorem.*	..	..	..	December, 31st, 1963.

Item Number	Name of article	Nature of duty	Standard rate of duty	Preferential rate of duty if the article is the produce or manufacture of			Duration of protective rates of duty
				The United Kingdom	A British Colony	Burma	
	(b) Nozzle-holders with a clamping capacity upto 25·4 millimeters clamping diameter for nozzles (atomisers) for use on stationary or automobile diesel engines and nozzles therefor; and component part of such nozzles and nozzle-holders.	Protective	25 per cent *ad valorem.*	..	..	..	December 31st, 1963.

NOTES.—1. Under Government of India, Ministry of Finance (Revenue Division) Notification No. 146-Customs dated 7th September 1955 as subsequently amended by Notification No.194-Customs dated the 24th December 1955, Ministry of Finance (Department of Revenue), Notification No. 320-Customs dated the 27th December 1957 and Notification No. 156-Customs dated the 18th November 1959, nozzle-holders with a clamping capacity upto one inch clamping diameter for nozzles (atomisers) and nozzles therefor and component parts of such nozzles and nozzle-holders, falling under this item, if of the United Kingdom manufacture, are exempt from the payment of so much of the customs duty leviable thereon as is in excess of 17½ per cent *ad valorem* :

Provided that the said articles are not also adopted for use as parts and accessories for motor cars including taxi cabs.

2. Under the Finance Bill 1963 a general surcharge of 10 per cent on all imports is levied with effect from 1-3-1963. The protective standard duty on diesel fuel injection equipment will thereby be enhanced by 2·5 per cent and preferential duty by 1·75 per cent.

15. Information regarding c.i.f. prices, landed costs etc. in respect of single cylinder fuel injection pumps and parts and components thereof have been received from the Collectors of Customs and some of the importers. But due to the absence of imports of types of single cylinder pumps and components thereof strictly equivalent to the indigenous products, the data could not be used for purposes of

C. i. f. prices and landed costs

comparison. We, however, obtained from MICO the derived c.i.f. prices in respect of corresponding items for protected articles based on f.o.b. prices of their principals Robert Bosch. They have also given similar information regarding two types of multi-cylinder pumps. These prices are given below :

Items	Specifications	Prices per piece
		Rs.
(a) *Single Cylinder Pumps*	(i) PF 1A 70 BS 185	39·04
	(ii) PF 1B 60 CS 131	55·36
(b) *Nozzle-holders*	(i) KB 35 SA 470	19·35
	(ii) KBL 67 S 50	25·86
	(iii) KB 35 SA 524	18·43
(c) *Nozzles*	(i) DLL 110 S 103	16·78
	(ii) DN 15 S 2	10·72
	(iii) DL 110 S 916	14·59
(d) *Elements*	(i) EPPK 184 S 6 Z	13·42
	(ii) PPK 9/4 Z	13·42
(e) *Multi-cylinder Pumps*	(i) With governor and feed pump for Perkins (p-6).	384·02
	(ii) With governor and feed pump for Tata Mercedes Benz.	479 50

16. Cost of production and fair ex-works prices

16.1. Our Cost Accounts Officer has examined the cost of production of MICO, whose accounts have been examined at every successive inquiry, for this purpose. The period selected for costing was the financial year ending 31st March 1962. But for purposes of studying cost trends, costs for the next six months were also scrutinised. Besides fuel injection equipment, MICO manufactures automobile spark plugs in the same factory premises and in order to obtain maximum utilisation of plant it uses its machinery , particularly automats for production of both products. But the manufacture of spark plugs requires only a very minor share of the capital investment and yields a small share of total sale proceeds.

16.2 After discussion with the company the following figures of production of different items have been adopted for estimates for the future. Note has been taken of the expansion as regards single cylinder pumps and in-line multi-cylinder pumps and the fact mentioned earlier

that the third stage of MICO's expansion is not yet being fully implemented.

	Nos.
1. Single cylinder pumps	71,000
2. Multi-cylinder pumps	42,000
3. Nozzle-holders	297,000
4. Filters	47,000
5. Filter inserts	215,000
6. Elements	620,000
7. Delivery valves	550,000
8. Nozzles	780,000

16.3. MICO has a satisfactory accounting system. The method of costing adopted by us was similar to that followed in previous inquiries. Operational data were available with the company on the basis of which total costs could be distributed over cost centres. After re-allocating common charges like tool room, maintenance and general overheads, production costs per hour for each centre were determined. Conversion costs for fuel pumps, assemblies and components have been worked out from this data, direct material costs being readily available. Consumption and wastage have been taken on the basis as for the actual period and allowances have been made for price changes in raw materials due to fiscal levies since April 1962. Reasonable estimates for increases on account of wages and salaries, consumable stores, tools and spares have been taken into account as also necessary additions to overheads on account of labour amenities, research and training expenses, publicity and emergency risk insurance premium. Depreciation has been taken at income-tax rates for multiple shift and packing costs adjusted to the extent necessary for current prices of material. At the cost discussions the representatives of MICO claimed an allowance for rehabilitation as through continuous use machines were worn out and will be requiring replacement at a higher cost. Considering that the plant is a young one barely operated for ten years and the company is eligible for earning development rebate and has built up a development reserve, the claim for an element for rehabilitation has not been accepted. We have added an element for contingencies at 5 per cent on the works cost excluding royalty. On a review of the financial position of the company it was found that six months' cost of production exclusive of depreciation is adequate for working capital. Return on capital employed has been allowed at 12 per cent which is the rate generally recommended by us in the case of most industries in recent years.

16.4. The fair ex-works prices of the selected items of fuel injection equipment costed on the above basis are given in the table below. As in earlier costing these are indicated for selected types. They now include two types of pumps for stationary engines, two types of multi-cylinder pumps and two types of nozzle-holders.

Statement showing the fair ex-works price of diesel fuel injection equipment (Single Cylinder Pumps and Nozzle-Holders) estimated for future

(Cost per 100 Nos.)

Type	A/Pump Kirloskar	B/Pump Cooper	KBL Nozzle Holder Kirloskar	KB Nozzle Holder Perkins
Reference No.	HPF 1A 70 BS 185	HPF 1B 60 CS 131	HKBL 67 S 50	HKB 35 SA 470
	Rs.	Rs.	Rs.	Rs.
(a) Raw Materials (including Customs Duty).	487·85	718·42	504·49	431·22
(b) Imported Components (including Customs Duty).	84·31	174·94	..	..
(c) Locally purchased components	44·27	56·04	79·33	79·33
TOTAL	616·43	949·40	583·82	510·55
Add Wastage in Assembly	3·08	4·75	2·92	2·55
1. Total Material Cost	619·51	954·15	586·74	513·10
2. Manufacturing Charges	1,604·72	2,140·96	849·09	590·78
3. Total Cost	2,224·23	3,095·11	1,435·83	1,103·88
4. Packing Charges	16·94	24·44	10·60	9·00
5. Royalty for Bosch	208·62	241·56	126·27	102·92
6. Total	2,449·79	3,361·11	1,572·70	1,215·80
7. *Add* for contingencies at 5%	112·06	155·98	72·32	55·64
8. Return on capital employed	351·27	476·18	200·77	145·93
9. Fair Ex-works Price per 100 Nos.	2,913·12	3,993·27	1,845·79	1,417·37
9.(a) Fair Ex-Works Price per piece	29·13	39·93	18·46	14·17

Statement showing the fair ex-works price of Multi-Cylinder Pumps with Governor and Feed Pump [in-line type] estimated for future

(Cost per 100 Nos.)

Type	Simpsons P 6	Tata Mercedez Benz
	Rs.	Rs.
(a) Raw Materials (including Customs Duty) . .	8,196.86	7,220.77
(b) Imported Components (including Customs Duty) .	2,108.54	15,600.23
(c) Locally purchased Components	1,464.61	442.81
TOTAL .	11,770.01	23,263.81
Add Wastage in Assembly	58.85	116.32
1. Total Material Cost.	11,828.86	23,380.13
2. Manufacturing Charges	13,674.17	12,907.99
3. Total Cost	25,503.03	36,288.12
4. Packing Charges	638.90	648.90
5. Royalty for Bosch	2,206.98	2,701.08
6. Total	28,348.91	[39,638.10
7. *Add* for contingencies at 5%	1,307.10	1,846.85
8. Return on Capital Employed	3,545.25	4,096.66
9. Fair *Ex*-works Price per 100 Nos.	33,201.26	45,581.61
9.(a) Fair *Ex*-works Price per piece	332.01	455.82

Comparison of fair ex-Works prices with landed cost without duty

17. In the following statement we compare the fair *ex*-works prices of indigenous products of certain popular types as given above with the c.i.f. prices worked out on the basis of f.o.b. prices indicated in paragraph 16.

	Single-Cylinder Pumps		Nozzle-Holders		Multi-cylinder Pumps	
	H-PF 1A 70 BS 185	H-PF 1B 60 CS 131	H KBL 67 S 50	H-KB 35 SA 470	P6	TMB
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1. Fair *ex*-works price per piece	29·13	39·93	18·46	14·17	332·01	455·82
2. C.i.f. price . . .	39·04	55·36	25·86	19·35	384·02	479·50
3. Clearing charges @1% on (2) . . .	0·39	0·55	0·26	0·19	3·84	4·80
4. Landed cost without duty (2+3) . . .	39·43	55·91	26·12	19·54	387·86	484·30
5. Difference (advantage) between fair *ex*-works price and landed cost without duty (4—1) . . .	10·30	15·98	7·66	5·37	55·85	28·48
6. Difference as a percentage on c.i.f. . . .	26·38	28·87	29·62	27·75	14·54	5·94

18. Measure of protection

18.1. It will be seen from the table, that as against a disadvantage to the indigenous producer which has to be compensated by imposing a protective duty (the present rate being 25 per cent *ad valorem* standard), the indigenous products in fact have a price advantage in that their fair prices are found to be lower than the landed cost without duty of the imported products. While this is the present position, some importers and certain consumers have alleged that the price of imported equipment, had it been allowed to come in freely, would have been lower. It has also to be taken into account that during the last three years MICO has successively reduced its prices indicating its readiness to pass on the benefit of lower costs to the consumer. In the circumstances, the need for duty-protection does not appear to exist now. During the course of eight years that the industry has received protection MICO has also diversified its output and tried to meet to the fullest extent the market demand for its products. Benefiting by its technical collaboration the unit has also satisfactorily maintained quality of the product. There has been a steady increase of the indigenous content in the products of MICO. MICO has thus argued that "considering the progress in the indigenous content and the price reductions we have been giving since 1959 in the race of mounting costs all round, we consider that

enough justification exists to de-protect single cylinder pumps, nozzle-holders, components and parts thereof". At the public inquiry they showed awareness of the fact that protection to an industry should be continued for the minimum period necessary and should be removed in the interest of development as soon as it is in a position to hold its own against imports. The other producer (Fuel Injections Ltd.,) however, has expressed the view that due to the high indigenous prices for castings and forgings which are higher than the prices in foreign countries and the lower productivity of our labour, indigenous products cannot compete with imported goods. Some of the difficulties of this unit, however, would become reduced when it moves to less congested premises and expands in accordance with its plans. Certain consumers and the Engineering Association of India have also suggested continuance of protection.

18.2. Diesel fuel injection equipment accounts for the major sales output of MICO and the company which we took as representative for the industry has had a consistently good dividend record for the last three years. We are, therefore, inclined to accept their contention that the industry is by now well-established and duty protection is no longer necessary in the case of single cylinder diesel fuel equipment and its components. This unit also feels confident that its expansion will enable it to diversify its production of multi-cylinder pumps as well. We accordingly recommend that on expiry of the present period of protection ending with 31st December 1963, single cylinder fuel injection pumps, nozzle holders and components no longer need protection and may be subjected to such revenue duties as may be deemed appropriate.

18.3. Multi-cylinder fuel pumps, which are not covered by the specific protected category item No. 75(18) of the First Schedule to the Indian Customs Tariff, would however be covered by the protected category item No. 75(11) in so far as they are included in automobile engine components. This item which so far carried a protective duty of 25 per cent has now, under the Finance Bill 1963, been altered to carry a higher protective duty of 50 per cent. The latest increase in duty seems to have been made in pursuance of a general policy to raise the cost of automobile components. As we have not had occasion to deal with the matter earlier, we are not commenting on the adequacy of the rate of protection. A reference to paragraph 17 will, however, show that in respect of the in-line type of multi fuel pumps also the advantage is marginally in favour of the indigenous product. There are, however, industrial types of multi-cylinder fuel injection equipment which may not be covered by either item 75(18) or 75(11) and they have, therefore, remained outside the scope of our inquiry. MICO which at present produces only the in-line type of multi-cylinder pump envisages that future demand might be more for the distributor pump. Production of the new type would call for additional capital equipment in the shape of special type of machinery and would depend on the market potential indicated in the trend of development in the main automobile industry. As mentioned earlier, one diesel engine producer has already approached MICO for production of this type of pump. In the circumstances, as the production

of diversified components is necessary and in the interest of the development of the protected automobile industry, we recommend that irrespective of the de-protection of single cylinder pumps, protection should be continued for multi-cylinder pumps either direclty under tariff item No. 75(11) or indirectly by any other measure that affords other facilities. The position as regards multi-cylinder pumps, taking them to be already in the protected category of automobile components, may be reviewed along with the continuance of protection to the automobile industry which is due to expire on 31st December, 1967.

19. Selling prices and selling system

19.1. MICO makes direct sales of fuel injection equipment as original equipment to automobile manufacturers and also to D.G.S. and D. and State Transport Organisations. Sales for replacement are conducted through regional or zonal offices at Madras, Bombay, Calcutta and Delhi, under whom there are 40 wholesalers and more than 50 distributors spread all over the country. Original equipment is generally supplied at a negotiated price substantially lower than the list price, while for replacement sales, the discounts for dealers in the trade, stockists, wholesalers and distributors ranges from 15 to 25 per cent on the list price. The pattern of distribution of Fuel Injections Ltd. is not different though its sales are much less than that of MICO. MICO's total sales have shown a steady rising trend and multi-cylinder pumps form a substantial part of the total sales. While the consensus of opinion of consumers has been that supplies of diesel fuel injection equipment are adequate, a few including importers and some public utility concerns have complained that supplies are not freely available. This was brought to the notice of the producers who agreed to make spare parts for any pump for which there was fair demand and to see that there is no delay in supply. We consider that as an industry which has developed by protection it should spare no pains to maximise output and meet all current demand avoiding delays which are stated to handicap public utility undertakings.

19.2. *Selling prices.*—Our recommendation in our last Report that MICO should reduce its prices and thus pass on the benefit conferred on it through protection to the consumers is being implemented by the Company. It reduced its prices in January 1960 to an extent ranging from 3 to 6 per cent for different items of original equipment and 5 to 7 per cent for replacement items. Again early in 1961 price reductions were made of 4 1/2 to 5 per cent on original equipment and 5 per cent on replacement items.During January to April 1962, further reductions have been made for pumps, nozzle holders and components. MICO has expressed its readiness to give price reductions in future also. It claims that its price for certain nozzles, elements, delivery valves and certain types of nozzles are already lower than their Equivalent prices in Europe. Fuel Injections has also made some reduction in prices since December 1962. We recommend that in the spirit in which the industry has already made such price reductions, it should continue to serve the consumer by offering further reductions.

20. Our conclusions and recommendations are summarised below.

20. Summary of conclusions and recommendations.

20.1. In view of its larger production and higher indigenous content now, multi-cylinder pump has been included in the scope of the present inquiry.

(Paragraph 4.5.)

20.2. The installed capacity of the industry for the manufacture of single cylinder pumps, multi-cylinder pumps and nozzle-holders has increased from 12,000, 6,600 and 48,000 respectively in 1959 to 80,400, 30,000 and 202,800 respectively in 1962. The production of these items was 63,276, 27,815 and 207,694 respectively during 1962. Capacity and production data for other components are given under paragraphs 7 and 8.

(Paragraphs 7.1 and 8.)

20.3. If no tangible progress is reported within a reasonable period by the new units licensed, Government may accord priority to the expansion programme of existing units as their capacities can be raised more quickly and without much additional capital cost or foreign exchange and the industry is one where economies can accrue from mass production.

(Paragraph 7.3.3.)

20.4. The domestic demand for various items of diesel fuel injection equipment for 1963 and 1965 is estimated as under :—

	1963	1965
	Nos.	Nos.
Single cylinder pumps	65,000	78,000
Multi-cylinder pumps	30,000	50,000
Nozzle-holders	240,000	350,000
Elements	450,000	550,000
Delivery valves	500,000	650,000
Nozzles	500,000	650,000

(Paragraph 9.3.)

20.5. In view of the importance of providing indigenous raw material to light engineering industries, this Indusy might be given priority of supplies from the new alloy steel plants.

(Paragraph 10.2.)

20.6. In order to ensure general acceptance of quality of their products manufacturers should adopt I.S.I. Certification Mark Scheme.

(Paragraph 11.4.)

20.7. In view of the considerations explained in para 18 single cylinder fuel injection pumps, nozzle-holders and components no longer

need protection after the expiry of the present period of protection ending 31st December, 1963 and may be subjected to such revenue duties as may be deemed appropriate.

(Paragraph 18.2.)

20.8. As the production of diversified components is necessary and is in the interest of the development of the protected automobile industry, protection should be continued for multi-cylinder pumps either directly under tariff item No. 75(11) or indirectly by any other measure that affords other facilities. The position regarding these pumps, taking them to be already on the protected category of automobile components, may be reviewed along with the continuance of protection to the automobile industry which is due to expire on 31st December, 1967.

(Paragraph 18.3.)

20.9. As an industry which has developed by protection, it should spare no pains to maximise output and meet all current demand avoiding delays which are stated to handicap public utility undertakings.

(Paragraph 19.1.)

20.10. In the spirit in which the industry has already made price reductions, it should continue to serve the consumer by offering further reductions.

(Paragraph 19.2.)

Acknowledgements

21. We wish to thank the manufacturers, importers, consumers and Government Departments concerned for their co-operation in connection with this inquiry.

K. R. P. AIYANGAR,
Chairman.

J. N. SEN GUPTA,
Member.

R. BALAKRISHNA,
Member.

PROMOD SINGH,
Secretary

BOMBAY,
Dated 22nd April, 1963.

APPENDIX-I

[*Vide* Paragraph 3·2]

List of firms, bodies and Government Departments to whom the Commission's questionnaires and letters were issued and from whom replies have been received

* Indicates those who have replied.

† Indicates those who are not interested.

A. *Producers*

*1. Motor Industries Co. Ltd., Post Box No. 93, Bangalore-1.
*2. Fuel Injections Ltd., 43, Forbes Street, Fort, Bombay-1.
*3. Kulko Engineering Works Ltd., Ichalkaranji, Kolhapur (Distt.).

B. *Prospective Producers*

*1. Jay Bharat Trading Co., P. B. No. 1192, Naya Bazar, Delhi.
*2. K. S. Injection (P) Ltd., 19-21, Hamam Street, Bombay-1.

C. *Importers*

†1. Associated Exports Imports Corporation, 8-B, Lall Bazar Street, Calcutta-1.
*2. Eruch D. Engineer & Co., Crossley House, Apollo Street, Bombay.
*3. Greaves Cotton & Co. Ltd., 1, Forbes Street, Fort, Bombay-1.
4. Honesty Trading Corporation, Beaumon Chambers, Medows Street, Fort, Bombay-1.
*5. Industrial & Agricultural Engineering Co., (Bombay) Ltd., 43, Forbes Street, Bombay-1.
*6. Indo-Universal Engineering Co. Pvt. Ltd., "Shanti Niketan", 95, A Marine Drive, Bombay-2.
†7. Ingersoll Rand (India) Private Ltd., Dena Bank Building, 17-B, Horniman Circle, Bombay.
8. J. N. Marshall & Co., Savoy Chambers, 5, Wallace Street, Fort, Bombay.
*9. K. B. Thaker & Co., P.B. No. 1136, 140, Medows Street, Fort, Bombay-1.
10. Larson & Toubro Ltd., I.C. House, Dougall Road, Ballard Estate, Bombay.
*11. Lucas Indian Service Ltd., 15, New Queen's Road, Bombay-4.
†12. Motor Industries Ltd., 41, Queen's Road, Bombay.
*13. Martin Burn Ltd., 12, Mission Row, Calcutta.
†14. Parry & Co. Ltd., Dara House, 1st Line Beach, Madras-1.
*15. Sundaram Motors Private Ltd., Mount Road, Madras-6.
*16. Voltas Limited, Chinchpokli, Bombay-12.
*17. William Jacks & Co. Ltd., Hamilton House, Ballard Estate, Fort, Bombay.
†18. W. H. Brady & Co. Ltd., Brady House, 12-14, Veer Nariman Road, Bombay.
*19. Rameshchandra Jeshingbhai, 216, Commerce House, 140, Medows Street, Fort, Bombay-1.
20. M. B. Maghanlal & Co., Garedia Kuva Road, P.O. Box 102, Rajkot.
*21. Premier Auto Electric Pvt. Ltd., 69, Tardeo Road, Bombay-7.
*22. Madras Auto Service Private Ltd., 37, Mount Road, Madras-6.
23. Ghatage and Patil, P.B. No. 108, Rajaram Road, Kolhapur.
*24. Girdharilal & Co., Sukhasagar, 4th Floor, Sandhurst Bridge, Bombay-7.

D. *Consumers*

*1. Cooper Engineering Ltd., Satara Road, Maharashtra State.

*2. Dandayuthapani Foundry Ltd., Pappanaickenpalayam, Coimbatore.

3. Indian Commercial Co. Ltd., 41, Apollo Bunder, Bombay.

*4. Indian National Diesel Engine Co. Ltd., P-61, Circular Garden Reach Road, Kiderpore, Calcutta-23.

5. Kulko Engineering Works Ltd., Ichalkaranji, Kolhapur (Distt.)

*6. Mazagon Docks Ltd., Dockyard Road, Bombay-10.

*7. Oriental Engineering Works Ltd., Industrial Area, Yamunanagar, P.O. Jagadbri (Ambala Dt.)

*8. Pakco Engineering Private Ltd., P.O. Box No. 14, Kolhapur.

*9. Ruston & Hornsby India (Private) Ltd., 1, Forbes Street, P.O. Box 91, Fort, Bombay-1.

*10. Textool Co. Ltd., Post Box No. 221, Ganapathy, Coimbatore.

*11. Premier Auto Electric Private Ltd., 60, Tardeo Road, Bombay-7.

12. Rambir Engineering & Mill Store Co., G.T. Road, Ludhiana.

†13. The Zamindara Engineering Co., Post Box No. 7, Fazilka.

14. Rameshchandra Joshingbhai, 216, Commerce House, 140, Medows Street, Fort, Bombay-1.

15. M. B. Maganlal & Co., Gardeia Kuva Road, Post Box No. 102, Rajkot.

16. Grand Motor Works & Co., Gondal Road, Rajkot.

17. Joshi Transport Co., Porbandar, 'D&D' Engineering Pvt. Ltd., Dee Buildings, Avanashi Road, Coimbatore.

18. Machinery Sales Corporation, 5, Tamarind House, Tamarind Lane, Fort, Bombay-1.

*19. Jayems Engineering Co., Warden House, Sir Phirose Shah Metha Road, Bombay-1.

†20. Automobile Products of India Ltd., Bhandup, Bombay.

*21. Simpson & Co., Ltd., Mount Road, Madras-2.

*22. Ashok-Leyland Ltd., 38, Mount Road, Madras-2.

*23. Hindustan Motors Ltd., 8, Royal Exchange Place, Calcutta.

24. Premier Automobiles Ltd., Agra Road, Kurla, Bombay.

*25. The Tata Locomotive Engineering Co. Ltd., Bombay House, Bruce Street, Bombay-1.

†26. The Standard Motor Products of India Ltd., 29, Mount Road, Madras-2.

†27. Mahindra & Mahindra Ltd., Gateway Building, Apollo Street, Fort, Bombay.

28. Bangalore Transport Service, Wilson Gardens, Bangalore-2.

*29. Indra Motors, Kurali, Ambala Dt. (Punjab).

*30. P. S. N. Motors Private Ltd., Trichur.

*31. T. N. Venkatasubba Reddy & Co., Madanapalle.

*32. Southern Roadways Ltd., West Veli Street, Madurai.

33. Deputy Commissioner, Board of Revenue, Hirakud Land Organisation, Sambalpur.

34. B.E.S.T. Undertaking, Electric House, Colaba, Bombay-5.

35. The Municipal Commissioner, Bombay Municipal Corporation, Bombay-1.

36. The Secretary, Bombay Port Trust, Ballard Estate, Bombay.

*37. The Commissioner for the Port of Calcutta, 15, Strand Road, Calcutta.

38. Director, State Transport, Assam, Shillong.

*39. Chairman, Maharashtra State Road, Transport Corpn., Central Office, 60-61, Dr. Annie Besant Road, Bombay-18.

40. Director, Kerala State Transport, Trivandrum.

*41. General Manager, Andhra Pradesh Road, Transport, Murshirabad, Hyderabad (Dn.).

*42. Chief Administrative Officer, Directorate of Transportation, Govt. of West Bengal, Nilgunge Road, 24-Parganas, West Bengal.

†43. Honorary Director, Madras State Transport Department, Mount Road, Madras-2.

*44. General Manager, Punjab Roadways, Amritsar, Amritsar.

45. General Manager, Mysore Government Road Transport Department, Bangalore.

*46. Manager, Rajya Transport, Patna-2.

47. Transport Manager, Poona Municipal Transport, Poona-2.

*48. Controller of Stores, North-Eastern Railways, Gorakhpur.

49. Controller of Stores, Central Railway, Bombay.

50. General Manager, Southern Railway, Perambur, Madras-23.

51. General Manager, Eastern Railway, Calcutta.

52. General Manager, Northern Railway, New Delhi.

53. General Manager, South Eastern Railway, Calcutta.

†54. Controller of Stores, Western Railway, Churchagate, Bombay-1.

*55. Kirloskar Oil Engines Ltd., Elphinstone Road, Kirkee, Poona-3.

†56. Chief Administrative Officer, Integral Coach Factory, Perambur, Madras.

57. General Manager, Chittaranjan Locomotive Works, Chittaranjan.

*58. Acme Manufacturing Co. Ltd., Antop Hill, P.O. Box No. 7102, Wadala, Bombay-31.

Consumers' Association

1. Automotive Manufacturers Association of India, India Exchange, Calcutta-1.

2. Secretary, Engineering Association of India, India Exchange, Calcutta-1.

3. The Secretary, Association of Engine Manufacturers of India, C/o. Kirloskar Oil Engines Ltd., Kirkee, Poona-3.

*4. Bombay Motor Merchant's Association, Sukhasagar, Sandhurst Bridge, Bombay-7.

5. Automobile Ancillary Industries Association, Victoria Mills Estate, Gamdevi, Bombay-7.

*6. Calcutta Motor Dealer's Association, P-6, Mission Row Extension, Calcatta.

7. All India Automobile & Ancillary Industries Assn., Brabourne Stadium, 67, Veer Nariman Road, Bombay-1.

†8. Consumers' Association of India, 4, Kashmere Gate, Delhi-6.

Government (Departments)

*1. The Senior Industrial Adviser (Engg.), Department of Technical Development (Automobiles Directorate), Ministry of Economic & Defence Co-ordination, Udyog Bhavan, New Delhi.

2. The Director of Co-ordination and Statistics, Directorate General of Supplies & Disposals, Ministry of Works Housing and Supply, Government of India, New Delhi.

3. The Secretary to the Ministry of Defence, Government of India, New Delhli

4. The Secretary to the Government of India, Ministry of Irrigation and Power, New Delhi.

*5. The Secretary, Railway Board, New Delhi.

*6. The Director, Indian Standards Institution, Manak Bhavan, 9, Mathura Road, New Delhi.

*7. The Collector of Customs, Bombay.

*8. The Collector of Customs, Calcutta.

*9. The Collector of Customs, Madras.

*10. The Collector of Customs, Cochin.

11. First Secretary (Commercial) to the Embassy of India, 262, Kolonzorstrasse, Bonn (W. Germany).

12. Counseller Commercial to the High Commission of India, 'India House', Aldwych, London (U.K.).

13. The Director, National Physical Laboratory of India, Hillside Road, New Delhi.

†14. The Director, National Metallurgical Laboratory, Jamshedpur.

*15. The Director, Indian Institute of Science, Bangalore.

*16. The Consulting Engineer to the Govt. of India, Ministry of Transport and Communications, New Delhi.

CHIEF SECRETARIES OF STATES :

1. The Chief Secretary to the Government of Andhra Pradesh, Hyderabad.

2. The Chief Secretary to the Government of Assam, Shillong.

3. The Chief Secretary to the Government of Bihar, Patna.

†4. The Chief Secretary to the Government of West Bengal, Calcutta.

5. The Chief Secretary to the Government of Gujarat, Ahmedabad.

6. The Chief Secretary to the Government of Jammu and Kashmir, Srinagar.

†7. The Chief Secretary to the Government of Kerala, Trivandrum.

8. The Chief Secretary to the Government of Madhya Pradesh, Bhopal.

9. The Chief Secretary to the Government of Madras, Madras.

*10. The Chief Secretary to the Government of Maharashtra, Bombay.

†11. The Chief Secretary to the Government of Mysore, Bangalore.

12. The Chief Secretary to the Government of Orissa, Bhubaneshwar.

*13. The Chief Secretary to the Government of Punjab, Chandigarh.

14. The Chief Secretary to the Government of Rajasthan, Jaipur.

15. The Chief Secretary to the Government of Uttar Pradesh, Lucknow.

16. The Chief Commissioner, Delhi Administration, Delhi.

17. The Chief Commissioner, Himachal Pradesh, Simla.

APPENDIX II

[*Vide* Paragraph 3.2]

List of factories visited by the Commission and its Officers

Name of the Factory	By whom visited	Date of visit
1. Motor Industries Co., Ltd., Bangalore.	Shri K. R. P. Aiyangar, Chairman.	19th February, 1963.
	Dr. R. Balakrishna, Member.	23rd February, 1963.
	Shri Hari Bhushan, Technical Director, (Engineering and Metallurgy).	29th September, 1962.
	Shri P. M. Menon, Cost Accounts Officer.	18th to 30th January, 1963.
2. Fuel Injections Ltd., Bombay.	Shri K. R. P. Aiyangar, Chairman. Shri J. N. Sen Gupta, Member. Dr. R. Balakrishna, Member Shri Pramod Singh, Secretary Shri Hari Bhushan, Technical Director, (Engineering and Metallurgy).	7th March, 1963.

APPENDIX III

[*Vide* Paragraph 3.2]

List of persons who attended the Commission's public inquiry on 27th March 1963

Name of the representative	Name of firm or body represented.
A. PRODUCERS :	
1. Shri E. Krimmel 2. Shri D. N. Vatcha.	Motor Industries Co. Ltd., P. Box No. 93, Adugodi, Bangalore-2.
3. Shri Vijay D. Char . . .	Fuel Injections Ltd., 43, Forbes Street, Fort Bombay-1.
B. IMPORTERS :	
4. Shri Poncha 5. Shri J. Wadia	Premier Auto Electric Ltd., 69, Tardeo Road, Bombay-34.
6. Shri C. S. K. Sundaram 7. Shri C. K. Nambiar	Voltas Limited, 19, Graham Road, Ballard Estate, Bombay-1.
8. Shri S. A. Dordi 9. Shri K. S. Nath	Lucas Indian Service Ltd., 15, Queen's Road, Bombay-1.
10. Shri Ramaswamy . . .	Industrial and Agricultural Engineeing Co. (Bombay) Pvt. Ltd., 43, Forbes Street Fort, Bombay-1.
C. CONSUMERS :	
11. Shri G. G. Phadke 12. Shri S. Johns	Maharashtra State Road Transport Corporation, 80-81, Dr. Annie Besant Road, Worli, Bombay-18.
13. Shri J. E. Talulicar . . .	Tata Engineering and Locomotive Company Ltd., Bombay House, 24, Bruce Street, Fort, Bombay-1.
14. Shri V. R. Sivaraman . .	Southern Roadways Pvt. Ltd., P. Box No. 21, Madurai.
15. Shri P. D. Dixit	Kirloskar Oil Engines Ltd., Elphinstone Road, Kirkee, Poona-3.
16. Shri K. S. Krishna Iyengar .	Ruston & Hornsby (India) Ltd., Chinchvad, Dist. Poona.
17. Shri D. R. Parvi . . .	B. E. S. T. Undertaking, Electric House, Colaba, Bombay-5.
18. Shri N. L. Verma . . .	Cooper Engineering Ltd., Satara Road, Maharashtra State.
19. Shri M. P. Naik . . .	Acme Mfg. Company Ltd., Antop Hill, Wadala, Bombay.

Name of the representative	Name of firm or body represented.
D. ASSOCIATIONS :	
20 Shri N. Balakrishna . . .	Associations of Indian Automobile Manufacturers, Army and Navy Building, 3rd Floor, Mahatma Gandhi Road, Fort, Bombay-1.
21. Shri R. K. Sethi . . .	Bombay Motor Merchants Associations Ltd., Sandhurst Bridge, Sukhnagar, 3rd Floor, Bombay-7.
E. SUPPLIERS OF RAW MATERIALS :	
22. Shri A. K. Jajodia . .	Chase Bright Steel Ltd., Vaswani Mansions, Dinshaw Watcha Road, Bombay-7.
F. GOVERNMENT DEPARTMENTS :	
23. Shri N. T. Gopala Iyengar, Development Officer (Automobiles).	Department of Technical Development, Ministry of Economic and Defence Co-ordination, New Delhi.
24. Shri A. M. Mankikar . .	Director of Co-ordination & Statistics, Ministry of Econ. & Defence Co-ordination, Directorate General of Supplies & Disposals (Dept. of Supply), National Insurance Building, Parliament Street, New Delhi.
25. Shri A. B. Rao . . .	Indian Standards Institution, Manak Bhavan, 9, Mathura Road, New Delhi.
26. Shri P. Ramabrahman . .	Office of the Collector of Customs, Bombay.
27. Shri D. S. Godbole . . .	Industries and Labour Deptt., Government of Maharashtra, Bombay.

APPENDIX IV

[*Vide* para 5·6]

Statement showing the Reductions in list price at various stages effected by MICO.

Product	1959	1960		1961		1962		Total reduction in prices since 1959. (As percentage)
	Rs.	Rs.	Reduction in %	Rs.	Reduction in %	Rs.	Reduction in %	
SINGLE CYLINDER PUMPS :								
H-PF 1 A....B....Std.	86·00	80·00(a)	7	76·00(b)	5	72·00(c)	5	16·28
.....BS...Std.	90·00	85·00(a)	5	80·00(b)	5	76·00(c)	5	15·56
H-PFR 1 A.....Std.	113·00	107·00(a)	5	102·00(b)	5	97·00(c)	5	14·16
H-PF 1 B....C....Std.	97·00	92·00(a)	5	88·00(b)	5	84·00(c)	5	13·40
.....CS...Std.	103·00	98·00(a)	5	93·00(b)	5	88·00(c)	5	14·56
H-PF 1 C.....Std.	288·00	275·00(a)	5	261·00(b)	5	261·00	..	9·38
H-PF 1 Z.....Std.	228·00	228·00	..	217·00(b)	5	217·00	..	4·82
NOZZLE HOLDERS :								
Cooper Type (H-KB 35 SA 524)	37·75	36·00(a)	5	34·25(b)	5	32·50(c)	5	13·91
Perkins Type (H-KB 35 SA 470)	43·75	41·50(a)	5	39·50(b)	5	37·50(c)	5	14·29
Kirloskar Type (H-KBL 67 S 50)	53·50	51·00(a)	5	48·50(b)	5	46·00(c)	5	14·02
T.M.B. Type (H-KCA 30 SD 2/4)	40·75	38·75(a)	5	37·00(b)	5	35·20(c)	5	13·62

NOZZLES :								
Pintle type for TMB & Cooper (DN..S) .	26·25	26·25	..	25·00(b)	5	23·00(d)	10	12·38
Hole type for Perkins (DL....S) . . .	35·75	35·75	..	34·00(b)	5	31·00(d)	10	13·29
DLL Type for Kirloskar (DLL....S) . .	41·00	41·00	..	39·00(b)	5	35·00(d)	10	14·63
ELEMENTS :								
'A' and 'B' types Std.	28·50	28·50	..	27·00(b)	5	24·00(d)	10	15·79
'C' type	103·75	103·75	..	98·50(b)	5	89·00(d)	10	14·22
'Z' type	100·25	100·25	..	95·25(b)	5	86·00(d)	10	14·21
DELIVERY VALVES 'A' & 'B' types Std.	8·00	8·00	..	7·60(b)	5	7·60	..	5·00

(a) Effective from 1-1-1960. (b) Effective from 1-2-1961. (c) Effective from 1-1-1962. (d) Effective from 1-4-1962.