



## Selection of the Bookmobile

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MOST CITY AND COUNTY LIBRARIES reach a stage when it is advisable to extend services beyond their present facilities. Most of these libraries turn to the bookmobile as the desired medium. Since most librarians have never experienced the challenge of selecting a bookmobile, the problem is completely strange. Even those librarians operating bookmobiles are faced with different conditions when the time arrives to select their second, third, or fourth unit.

There are three major subjects to consider: the selection of the new unit itself, its operation, and its replacement. The selection of the unit itself has to do with size, equipment, and cost; operation has to do with cost and maintenance; replacement has to do with size, obsolescence, or deterioration.

First as to the selection of the unit itself. One of the most important features is the matter of size. In the past most thoughts were turned to "how many books will it carry" but in the last few years it has switched to "the area of workable floor space." This has been brought to light from experience. With adequate room to work, bookmobile personnel can be more efficient and are able to accommodate more patrons in a shorter time, affording more time to re-shelve returned books.

The quantity of volumes is possibly the second most important consideration. Needs will vary depending upon the density of population, how frequently the bookmobile can be serviced from its source of supply, and the type of service it will give. When serving schools it must be remembered that the patrons come in large numbers and there is no time to re-shelve returned books so the larger the book capacity the better. An adult stop is usually less concentrated with a more steady stream of patrons over a longer period with less relative space for books alone needed. On the other hand a combination school and adult bookmobile needs to be stocked with a larger num-

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ber of volumes because it is expected to offer two entirely different selections of books.

Some attention should be given to the width of the unit where it will be used in areas with exceptionally narrow roads and to height in localities where it will be necessary to go through underpasses of below normal dimensions or must fit into a certain garage. Most bookmobiles do not exceed an over-all height of ten feet, six inches.

When selecting a bookmobile it is wise to take inventory of the expected road conditions. This is especially true in counties where there are load restrictions especially in the spring thaw season. There have been a few isolated cases where it was necessary to build a bookmobile under the maximum over-all limitation at the sacrifice of floor space inside. However, a bookmobile will be capable of traveling on roads that accommodate school buses.

Once the size is determined then the type may be selected. The conventional type will accommodate a body of ten to sixteen feet, the inside working space behind the driver's seat. The forward control type, sometimes referred to as the parcel delivery type, will accommodate a ten to twenty foot body. The transit forward control type will accommodate a twenty-two to a thirty foot body. These terms are current in the United States and Canada. For the usage in other parts of the world see S. H. Horrocks and J. A. Hargreaves' chapter elsewhere in this issue.

The next item for consideration is the equipment on the bookmobile including shelving, desks, electric power, heat, light, ventilation, air conditioning, chassis, and a number of convenience accessories. The arrangement of shelving should be seriously considered and well planned. Most adults will not browse the bottom shelf, hence this shelf is usually planned for children. Children's books, including flats, should not be shelved close to the circulation desk to avoid congestion and interference to those wishing to check-in or check-out books.

One or two sections at least should be fitted with adjustable shelves. Shelf height is limited in a mobile unit to control the exterior over-all height. Nine and three-fourths inches clearance between shelves has been found to be generally satisfactory in that it will accommodate a large majority of books. This shelf height will permit seven shelves high with an inside height of six feet, ten inches from the floor to the ceiling, a comfortable height for most patrons. Through trial and error it has been determined that the side shelving should slope fifteen

degrees and the shelving on the rear wall twenty degrees. The twenty degrees on the rear wall becomes necessary in case of sudden stop.

The standard shelving should be seven inches deep, which experience shows will accommodate nearly all books. If the shelves are deeper the books slide to the back of the shelf and it is difficult to read the titles. At the rear of the shelves should be a perpendicular back so that the books will rest on the full edge of the book rather than on the upper corner causing excessive book wear. There should be provisions for children's flats. Such shelving should be approximately twelve inches high by eleven inches deep with dividers approximately every eight inches. These shelves can also be used for phonograph records, especially with the addition of extra dividers. In the planning of shelving provision should be made, when needed, for films, filmstrips, projector, screen, magazine racks, and card catalog. Keep in mind that the proper planning for the arrangement of the shelving will make easier work for the bookmobile librarian.

At present wood and steel are the two materials from which shelving is made. Wood has become more acceptable because of its warmth, quietness while in motion, durability and maintenance. Steel shelving has a tendency to be cold in appearance. Some steel shelving in a mobile unit will have a tendency to sag over a period of time. Steel shelving also requires paint which will need refinishing more frequently than natural finished wood.

The choice of wood is frequently a desire of the individual. It may be poplar which is light in weight and finishes in a blond tone. Oak may be finished natural or with a limed finish. Wild cherry and birch finished natural have an excellent tone but are in a higher price bracket. Regardless of the choice of wood, it should be finished natural for the longest preservation.

Provision for returned books is extremely important when planning the desks even at the sacrifice of shelving space. When the traffic in the bookmobile is heavy it becomes extremely difficult to work with the desk covered with returned books. There is usually more space available for ledges and tables at the front and for this reason most bookmobiles are set up for the return of books there. This desk should be from twenty-four to thirty inches wide with all the counter space possible adjacent to this desk so long as it does not interfere with traffic. It is frequently advisable especially in units used for stops at schools to extend the desk to the rear along the wall even though some shelf space is sacrificed. Some librarians prefer to have the books

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returned at the rear. If this arrangement is selected, make certain that adequate space has been planned for returned books.

Both front and rear desks should be constructed of material to match or blend with the shelving. It is advisable to have the desk top covered with formica for long service. Mouldings around the edge of desks and ledges have been eliminated because of injury to clothing. The edges should be covered with the same formica as the top of the desk. Care should be taken that other portions of the desk do not have sharp corners on which to snag hosiery. It is advisable to have the front of the desk constructed of peg-board material extending to within three or four inches above the floor. This will give adequate circulation of air so that warm air from the heater will circulate behind the desk and cold air will not be trapped at this point. The exception to this is when a bookmobile is heated with electricity and a base board heater is installed behind the desk. The front of the desk should also slope downward to the inside of the desk to protect the front from being marred.

The arrangement of desk fittings such as drawers, shelving, money tray, card trays, and charging machine space should be worked out with the sales engineer assisting in the planning of the bookmobile. The seat for the front desk, normally the driver's seat, swivels through three hundred sixty degrees (one complete turn). If it is the type of desk that extends completely across the front of the bookmobile then the rider seat may be the same type as the driver's seat. The seat for the rear desk may be of the bench type with a lazy back or in most cases it is a stenographic type or posture chair which is more flexible and easy to adjust to the individual. It is advisable that a draft gate or some similar arrangement be installed to protect the personnel at the desk from drafts entering the bookmobile when the exterior doors are opened.

A clothes locker and some cupboard space for supplies are necessary. However, caution should be exercised, because in a number of instances this writer has examined bookmobiles after they have been in operation for a period of time and found that the excess cupboard space was filled with old newspapers and junk. Bulletin boards may be located on the front of cupboard doors, the locker door, above the rear window, above the windshield, on blank wall spaces and above patron doors.

Some smaller bookmobiles find it convenient to have a portable desk that hooks on to the shelving in the rear at a standing height. It be-

comes convenient when two people are working in the bookmobile at a very busy stop. When this desk is not needed it may be stored in the clothes locker. The arrangement and construction of the patron door may include some advantages and conveniences. In the first place the door should be so constructed that it will not sag throughout the life of the bookmobile. Primarily this is done by the correct framing of the door opening and the use of the proper hinge which should be a heavy duty piano type hinge with a brass pin to prevent binding.

A large glass area provides vision into the unit for patrons and makes them feel welcome. It also provides vision for the bookmobile personnel to see patrons approaching the unit. The exterior handle should be of the recessed type so that it is not easy to knock off. Easily grasped handrails should be provided on the inside of the door constructed of stainless steel rather than chrome-plated steel because the latter deteriorates rather rapidly from perspiration. The door should be similar to the commercial type door in a building, without a latch, and should be equipped with an automatic door closer to eliminate the necessity of attending the door. It will also eliminate the possibility of a strong wind slamming the door closed suddenly. The door hinge should be covered with Naugahyde, or some other heavy duty plastic so that when the door closes it is not possible for anyone to injure his fingers at the hinge. Most bookmobiles have an exterior folding step to be used where there is no curb. This step should be equipped with a tell-tale safety signal system to avoid driving off with the step down.

Some librarians want a rear window for ventilation or for cheerfulness. It has no value as far as driving because it is too high for immediate vision behind the unit. This window is available in both stationary and ventilating type; however, if it is the ventilating type it should be one that does not leak dust.

Skylights constructed so that they will not leak in a rain storm can provide considerable light. In the United Kingdom this is known as a clerestory roof. As a matter of fact there are many days during which artificial lights are unnecessary with sufficient skylights. They also have an advantage in that they can be of the ventilating type. One twenty-four inch square skylight to every six foot of body length is sufficient.

Exterior compartments for tools and equipment may be built on either side of the unit under the floor. In emergencies an extra supply of books may be carried in these exterior compartments.

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Insulation is necessary in all climates since insulation holds the heat out of the bookmobile when cooling is desired, and retains it when warmth is needed. The insulation should be of a block type so that it will not settle from the vehicle's vibrations. A sheet of aluminum foil between the outer panel and the insulation is necessary in air-conditioned bookmobiles as a moisture barrier. With the inside temperature lower than the outside temperature there will be a point of condensation from the exterior humidity which would cause moisture to form in the walls of units without a moisture barrier. This in time would deteriorate steel or wood in the structural members of the body. It is also advisable to use two layers of glass or thermo-pane in skylights of air-conditioned bookmobiles so that the minimum amount of heat penetrates into the body through the skylights.

The selection of electrical power for a bookmobile falls into three categories. First, a connection for 110 or 220 volts, whichever is required, from an exterior source. The second method is to supply the 110 or 220 volt current from a self-powered generator installed in the mobile unit. The third method is to produce twelve volt current from a battery installed in the bookmobile.

The exterior source of power requires an outlet at each stop. This is usually done by installing a pole or securing permission from the owner of property at a stop to place the outlet on his building. This is frequently done at shopping centers. To make the connection between the mobile unit and the outlet an adequate shoreline cable is necessary which can be carried in an exterior compartment under the floor of the bookmobile. A simple method of storing the cable is to wind it on brackets or a reel installed on the inside of the compartment door, which hinges down. The cable can be connected to the mobile unit inside this compartment so that it only becomes necessary to unwind the amount of cable needed for the outlet at each stop. One of the main objections to the use of outlets at each stop is the possible need for changing locations of the stops. This means that each outlet must be moved to a new location. However, for most libraries this occurs quite infrequently and the cost of moving a receptacle is small compared to the cost involved in the installation of a self-powered generator. The exterior outlet is also the least expensive to maintain. Some power companies require a meter be installed at each outlet. Other companies permit only one meter in the bookmobile and this method has been very satisfactory. Then there are those enlightened power companies with a sense of civic

duty, which in view of the small amount of current consumed charge a flat rate for each stop, or in a few cases make no charge at all.

The installation of a self-powered generator can be satisfactory but it must have sufficient capacity to take care of the requirements. The installation of the generator equipment must be carefully done to obtain the maximum service with the least amount of maintenance. The power plant must have adequate ventilation and be engineered in such a manner that the exhausted hot air will not be recirculated thru the cool air intake. This power plant should be mounted on special rubber blocks designed for this purpose so that the unit floats free. The gasoline line to the supply tank, which is normally the chassis gasoline supply tank, should be equipped with an auto-pulse as close to the half way distance as possible to eliminate the possibility of a vapor lock which frequently occurs in hot weather. The compartment which houses this power plant should be well insulated and muffled to prevent the heat and noise from entering the bookmobile body. It is also advisable to mount the generator on a sliding tray so that it can be easily removed for service.

The third method, which is the twelve volt current from the chassis battery, is quite popular in rural bookmobiles. There are important factors involved in this method. The first is to have a battery capacity of sufficient quantity and a charging system of sufficient size to replace the used current. Batteries are available in two hundred-ampere-hour capacity size, and where a quantity of electricity will be consumed it may be advisable to use two two-hundred-ampere-hour batteries connected in parallel. The chassis should be equipped with a heavy duty generator or alternator with at least a fifty-ampere-hour output on a low cut-in basis. The low cut-in basis means that the generator will produce its full capacity while the chassis engine is idling. In addition to the chassis generator it is also necessary to have a battery charger connected permanently to the battery in such a manner that the charger can be connected to an exterior source of one hundred ten volt electricity while the bookmobile is in storage. This charger should also be equipped with an eight hour timer to prevent the battery from being overcharged. It is advisable to have the batteries installed on a sliding tray for ease of servicing.

The twelve volt electrical system has become quite popular because of its independence and since the availability of twelve volt fluorescent lights. Artificial lights are available in various types: incandescent for 110 volt, incandescent for twelve volt, incandescent for a

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combination of 110 volt and twelve volt, fluorescent for 110 volt, fluorescent for a combination of 110 volt and twelve volt. The choice between incandescent and fluorescent is a matter of personal selection; however, fluorescent is used in the majority of cases. When 110 volt electricity is available it is customary to install two continuous rows of fluorescent lights in the ceiling approximately fifteen inches from the top of the shelving for proper lighting. A light above the stepwell at the patrons' door is advisable when the bookmobile is operating at night. Exterior flood lights are available to light up the exterior of the bookmobile for advertising and/or safety purposes at night. Where 110 volt current is not available a combination 110 volt and twelve volt fluorescent circular tube is generally used, operated from the chassis battery.

With the exception of a very few southern states heating a bookmobile is important. This can be done with hot water heaters operating from the chassis engine. However, this becomes very costly because it is necessary to operate the chassis engine when heat is desired. It is quite detrimental to present day gasoline or diesel engines to idle them for any period of time. In addition the consumption of fuel is considerable. There are gasoline heaters on the market that will operate more cheaply than operating the chassis engine. However, these heaters need fine adjustments by a mechanic who is familiar with this type of equipment, require frequent maintenance, and are excessively noisy. Another type of heater occasionally used is the oil burner. It is quiet and comparatively simple to operate though it necessitates filling the tank almost every day and the burner needs periodic cleaning. There is a question as to the approval of this type of heater by the Underwriter's Laboratory for use in a bookmobile.

A popular, convenient, and low cost means of heat for a rural bookmobile is liquid petroleum gas, better known as bottled gas. In recent years approval for this type from the Underwriter's Laboratory, American Gas Association, and the Interstate Commerce Commission has been secured, providing it is installed and operated according to their instructions. The gas may be handled either by replaceable portable tanks or by a stationary tank. The stationary tank method is looked upon as the safest since the connections are not disconnected and reconnected frequently. The stationary tanks are available in various sizes and it has been discovered that the one hundred seventy-five pound capacity tank is the most adequate since it will not be necessary to refill this tank more than once a week. The



availability of service for this type of heater is easily accessible since each supplier of gas must maintain licensed personnel for this purpose. The heater is quiet, and cleaning is limited to approximately once a year. Another advantage of this type of heating is that the fan or the blower in the heater, necessary for good distribution of heat, may be operated on a twelve volt system from the chassis battery.

For those bookmobiles operating in a metropolitan area electric heat is desirable. Although this requires a 220 volt outlet at each stop no fuel tanks must be filled and maintenance is practically nil. The distribution of electric heat is excellent with a 500 watt electric heater behind each desk and radiant panel heating in the floor. This is not sufficient heat for very cold days, but it does provide heat for those chilly days when the heaters behind the desks are not quite sufficient. In addition to this it will keep the floor warm on a very cold day. For cold days well below freezing sufficient additional electric heat on thermostat control can be furnished by two 3000 or 4000 watt electric heaters. These are usually located with one toward the front and one toward the rear. Those bookmobiles that are equipped with air conditioning can have this additional heat installed in the air conditioning ducts thus eliminating the two large heaters.

For ventilation one natural means is to make all windows ventilating including those in the doors. Most bookmobiles have skylights and these should be made to ventilate so that rising heat will be exhausted. A roof exhaust fan may be incorporated. However, if a twelve volt system is to be used in the bookmobile, the largest twelve volt fan will only move approximately 350 cubic feet a minute necessitating more than one fan dependent on the size of the bookmobile. If 110 volt electricity is available, then ceiling exhaust fans are available which will move over 1500 cubic feet per minute. Another method of adding circulation to the air is to incorporate several circulating fans of which many types are available. Here again, it must be remembered that twelve volt fans are not as powerful as 110 volt fans. The front fan should be mounted so that it can also be used as a windshield defroster fan in the winter time.

The demand for air conditioning becomes greater every year and there are a number of mobile air-conditioning units now on the market. However, these units are engineered to reach their efficiency when the mobile unit is in motion. Because of this it is easy to understand why this type of air conditioning is not desirable in a bookmobile since top efficiency is most needed when the unit is stopped at its stations.

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The type of air conditioning used to cool most bookmobiles requires 220 volt electric power from an exterior source or from a self-propelled power plant as previously described. Since 220 volt electric current is available in all metropolitan areas it becomes relatively simple to produce satisfactory air conditioning in a metropolitan mobile unit. On the other hand, 220 volt current is not available at a majority of rural bookmobile stations. This means that air conditioning in rural bookmobiles would require the source of power on the mobile unit itself. This method is costly and requires considerable maintenance.

When selecting the air conditioning unit it is most important that the unit be manufactured and engineered for mobile installation. These air conditioners contain special features to overcome the vibrations encountered in mobile equipment. It is extremely important that the air conditioner has sufficient capacity as governed by such things as the square feet of glass area, type of insulation, moisture barrier, heat output from the lights and other accessories, maximum number of people who will be on the bookmobile at one time, and the range of temperature and humidity in the area where the bookmobile will operate.

There is a formula for determining the capacity of air conditioning on the basis of the BTU's produced from the above mentioned items. If the formula calls for a certain size unit and it is at all marginal, it is advisable to select the next largest size. If an air conditioning unit must operate at full capacity nearly 100 per cent of the time failures become frequent. For example, the formula may produce an answer that falls in the range of a two ton unit. However, the number of BTU's are of a quantity that comes close to the three ton range. In this case by all means select a three ton unit. The extra expenditure at this time will far offset the maintenance that will be necessary from the smaller unit.

In the selection of the chassis, which consists of the motorized mechanism for the bookmobile, there are three basic considerations: the size of the bookmobile, the type or style, and the capacity required. The size is of first consideration because it will determine the style. If the body is twenty feet or less it can be mounted on the following styles: the conventional, with the entire engine extending forward of the windshield; the cab forward or "snubnose," with a small portion of the engine extending forward of the windshield; and the forward control, frequently termed the parcel delivery, with the entire engine back of the windshield. If the body size exceeds twenty

feet it is advisable to select the transit forward control type chassis which may have the engine either in front or in the rear. Its outstanding feature is the excellent distribution of weight for a long body. The front axle is located farther to the rear shifting more of the weight from the rear axle to the front axle and creating a shorter wheelbase. The front axle is considerably wider than on other chassis and, along with the shorter wheelbase, offers the much shorter turning radius so desirable in the maneuverability of a large bookmobile.

The capacity of the chassis should be selected strictly by the gross vehicle weight (G.V.W.) rating of the chassis manufacturer. The G.V.W. means the Gross Vehicle Weight of the entire unit including the complete chassis, body, shelving, books, personnel, etc. The sales engineer who is assisting you in the design of your bookmobile will determine the G.V.W. rating that is required. Note that the former rating of one, two, three ton, and so on is no longer used. Terrain is an important factor in selecting the chassis. In some localities it is advisable to have the chassis equipped with a two speed rear axle and by all means an engine with sufficient power to handle the unit. Some roads are rough with chuck holes and rocks. In this case the bookmobile chassis should be equipped with extra heavy tires to prevent blow-outs. If the terrain and roads are frequently soft, or the operating territory is frequently covered with heavy snow, it is advisable to have the bookmobile chassis equipped with mud and snow tires.

The decoration of the bookmobile can add much to its success. This includes the selection of exterior colors, lettering, floor covering, interior colors, desk tops, and seat coverings. A good quality of floor covering is essential. Light duty domestic type linoleum should be avoided; heavy duty, one-eighth inch thick linoleum is satisfactory. There are a number of vinyl floor coverings that are attractive and durable. Asphalt tile is too brittle and cork is too soft. The floor covering is subjected to considerable abuse by heavy traffic bringing in mud, sand, moisture, cinders, and gravel. The base of the shelving at the floor line should be protected with a rubber cove base moulding. It is advisable to have a white or preferably off-white ceiling and a light colored floor to reflect light from the windows and skylights onto the books.

The major equipment items now have been covered. Other available accessories which may be added include: correct exterior ICC lights, directional signals to meet ICC requirements, interior electrical re-

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ceptacles for appliances, back-up warning alarm system, public address system, clock, fire extinguisher flag and flares, rear view mirrors, sun visors, windshield wipers, windshield washers, lavatory, sunshades for skylights and windshield, pencil sharpener, a facial tissue holder, a vanity mirror, wash and dry towels in a dispenser, the latter three items all placed on the inside of the clothes locker door.

To this point consideration has been given to an ideal bookmobile without consideration of cost. The ideal situation is when the librarian consults with the bookmobile manufacturer before a budget request is made. If the budget has been established then it is still necessary for the librarian to consult with the bookmobile manufacturer to design the most functional bookmobile with the available funds. In either case it is to the advantage of the reputable bookmobile manufacturer to design a unit that will be most satisfactory to the library and the community.

The range in cost is usually determined by the length of the bookmobile and the style chassis on which it is built, the lowest being ten to sixteen foot bodies mounted on a conventional type chassis. The same range in length can be mounted on the forward control type chassis at some additional cost and, on the cab forward or snub-nose style at still higher cost. The next range is seventeen feet through twenty feet which can be satisfactorily built on the forward control and cab forward style. This length is not desirable on a conventional type chassis because of the increased over-all length. The next range is twenty-two feet through twenty-nine feet which should be built only on the transit forward control style chassis. The following costs are based upon 1960 prices and cover a complete bookmobile including the chassis.

It must be realized that accessories and refinements affect the price of all bookmobiles. The ten to sixteen foot range generally falls between \$7,000.00 and \$11,000.00. The seventeen through twenty foot range will generally fall between \$12,000.00 and \$14,000.00. The twenty-two through twenty-nine foot range will fall between \$15,000.00 and \$23,000.00. These prices do not include air conditioning. Frequently, it is discovered that a librarian will work toward a certain budget which sometimes takes several years. In the meantime costs have advanced and the librarian experiences a disappointment when it is discovered that the planned bookmobile is not available within the budget that has been so hard to secure.

The operating expenditures of a bookmobile generally consist of

gasoline, oil, battery service, tire service, and maintenance. Maintenance is extremely important and covers such items as lubrication, washing, heater service, electric power plant service, air-conditioning service, and damages. All equipment and machinery require attention. Preventive maintenance is the least costly. Preventive maintenance starts with the purchase of the new unit. Make certain that the size and capacity of all equipment is adequate. Frequently an additional expenditure at the time of purchase will save this amount many times over in maintenance. One of the most important items in maintenance is cleanliness. This applies to the paint, engine, batteries, tires, generators, heaters, air conditioning, floor covering and shelving. The normal operating cost of a bookmobile, again based on 1960 prices, should be somewhere between \$800 and \$1500 a year depending on the size of the bookmobile and the territory it covers. This should cover gasoline, oil, insurance, normal preventive maintenance, cleaning, and storage.

In practically every situation where operation cost has become excessive, it is due to the lack of preventive maintenance. For example, when the paint is chipped it should be touched up to prevent rusting, when a light lens is broken it should be replaced. When the chassis engine, electric power plant, generator, heaters or other equipment require periodic service it should be done at the particular time prescribed by the respective manufacturer. The proper housing of a bookmobile will help to cut down on the maintenance cost. This will assist in keeping it clean as well as protect it from damage by vandals and prowlers. In the colder climates it is quite advantageous if the unit can be stored in a heated garage. If the books are permitted to become cold they will react as refrigeration in the bookmobile body. When the heat is turned on in the morning the majority of it will go to warm the cold books, and some period of time will lapse before the heat is felt by the personnel. Because of this it is advisable to maintain some heat inside the unit on cold nights when it is not stored in a heated garage. The ideal situation is when a library maintains its own garage in connection with the library. Other facilities are sometimes available in the city garage, the county garage, fire department, or commercial garages. However a city, county, or commercial garage should be investigated for its capacity for if too crowded it may result in considerable damage to the bookmobile.

When maintenance or repair work is necessary on the air-conditioning equipment it is advisable to consult the bookmobile manu-

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facturer first. The reason for this is that they are familiar with mobile air conditioning. Frequently, a library will go to a local air-conditioning firm which is very efficient when it comes to maintaining commercial or home air-conditioning but has little or no knowledge of mobile units. This has caused considerable additional trouble and cost to the library.

At the time the new bookmobile is ready for delivery from the bookmobile manufacturer it is advisable for the library to send a driver to the factory to pick it up. The driver should remain at the plant until full instructions have been received on the operation of all the equipment and a complete inspection of the bookmobile is made.

The replacement of a bookmobile may become advisable because of its size, obsolescence, or deterioration. The necessity to replace a bookmobile because of size may have come from poor original planning or unforeseen growth. Some bookmobiles have been selected without consideration of the growth of the city. Other bookmobiles have been selected with future planning but, due to growth far beyond the imagination of anyone concerned, it has been necessary to replace the bookmobile with a larger unit. The latter reason has occurred in a number of instances. As a matter of fact, at the present time there are a number of excellent bookmobiles for sale because they are too small to give adequate service to the unexpected growth of a community. Obsolescence comes about through the development of new desirable equipment. These items are mainly connected with style, heat, light, ventilating, air conditioning, or chassis design. Deterioration comes from the unit actually wearing out. Of course this can occur at an earlier date due to inadequate maintenance and it is rather difficult to predict such a time. The more expensive units, where considerable planning has been done in the first place, will as a rule last much longer. It is advisable for any library to start immediately after the purchase of their new bookmobile to plan for replacement. Some method should be adopted for an amortization program so that funds will be available when it is necessary to replace the unit from deterioration. The safe period for planning is approximately ten years, except for the transit forward control, which can be fifteen years with good preventive maintenance.

As a final word choose a bookmobile manufacturer with experience if at all possible. The contents of this article catalog the bookmobile as a very special type of mobile unit. It is common practice for a fire

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department to call on a builder of fire trucks for their mobile equipment, the same is true of a city purchasing city buses or a utility company purchasing line trucks. A manufacturer without experience can create many disappointments for both himself and the library.