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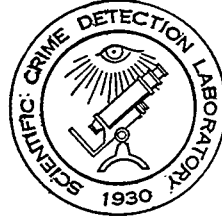
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POLICE SCIENCE



Editor: FRED E. INBAU

STOLEN AUTOMOBILE INVESTIGATIONS

WILLIAM J. DAVIS†

At the present time the car stolen for purpose of resale is one of the most important types of theft. Operations of this character are, in general, carried on by organized gangs intent on obtaining cars in sufficient quantities so they may be disposed of as part of an established business. Individuals in this specialized field are ordinarily quite expert in disguising original ownership either by altering numbers or by other methods, and in securing comparatively safe outlets for their products. For this reason, cars stolen for resale ordinarily present both a recovery and an identification problem.

While thefts caused by juveniles stealing cars for the purpose of joyrides may not be bona fide larcenies they nevertheless account for a great number of stolen cars. They are important for the reason that there is the constant possibility and probability that the car may be partially or totally wrecked or may be the cause of serious property damage or personal injury. Likewise to be considered is the situation arising where a juvenile steals a car for ordinary transportation purposes, the thief using the automobile as a conveyance to some other part of his home city or frequently to some other state. After the purpose of the theft has been accomplished the automobile is abandoned, and recovered shortly there-

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after. As in the case of joy-riding, there is the constant possibility and hazard of serious damage to the automobile and injury to innocent third persons.

Then, of course, there are cases where automobiles are not actually stolen, but where the owner may report a theft for reasons of his own. He may attempt to dispose of his car in order to collect insurance or he may find it convenient or necessary to conceal some fact requiring the unexplained absence of his car which he therefore reports as stolen.

In the commission of practically all major crimes, the criminal needs an automobile. The police records of one large midwestern city show an interesting connection between the number of burglaries and robberies occurring in this community and the number of automobiles stolen. As automobile thefts increase burglaries and robberies increase. As the former have been reduced the latter have also declined. Whether we infer from this comparison that a reduction in auto thefts will result in a reduction of burglaries and robberies or that a reduction in burglaries and robberies will result in a reduction of automobile thefts is, for the present, immaterial, inasmuch as this direct connection seems quite evident.

PROCEDURES FOLLOWED IN STEALING AN AUTOMOBILE

The thief's first problem in stealing any car is to effect an entry. This may be accomplished by means of jiggler keys used for opening door locks. Such keys are of two types: those for opening locks having two sets of tumblers, and those for opening locks having only one set. The 1934 Chevrolet is an example of a car having a double tumbler lock. A key used for opening this particular car has a small projecting piece of metal on the end of the key at both top and bottom, to be employed for engaging both sets of tumblers. The key is inserted in the lock and rapidly jiggled up and down, engaging the tumblers and forcing them away from the center of the lock. Where only one set of tumblers is present as in the ordinary type of door lock the thief uses a jiggler key which has only one projecting piece of metal. The method of operation, however, is the same in both cases. These keys may be manufactured from any sharp piece of metal and frequently are made over from some other original key. The ordinary lock pick is also frequently used and may easily be manufactured from a nail file, knife blade, or any similar sharp piece of metal.

Another favorite method of entering an automobile having split window ventilation is to pry open the swinging section of the window. The only equipment needed for such an operation is a screw driver, or any other sharp wedged instrument, and a piece of wire sufficiently rigid to retain its shape under a slight degree of pressure. To enter a car having this type of ventilation, it is necessary to pry out the lower part of the swinging window. To do so, the thief inserts a screw driver or other sharp instrument at the base of the window, taking care not to permit the screw driver itself to come in contact with the glass. After an opening of sufficient size has been made to enable him to insert the looped wire into the car, it is hooked to the knob of the handle controlling the window. He then finds it possible to open the window a sufficient width to permit the door to be opened manually. This operation takes only a few seconds and results in no damage to the automobile.

Entry into the automobile may also be effected by breaking the door lock. A section of pipe placed over the door handle, is an efficient instrument for such an accomplishment. For those cars having a revolving handle, this type of entry is of course impossible.

Slitting the roof of a car having the conventional canvas top and wire netting is a comparatively simple operation. After the top has been cut the thief inserts a sharp wire into the interior of the car, catching the door lock and opening the door. The chief disadvantage from the thief's standpoint is that after the cut has been made, the method of entry becomes obvious and suspicious and may expose him to the danger of immediate apprehension. However, this manner of getting into a car is comparatively popular and is still being used to a considerable extent.

In the event he does not care to resort to the methods previously outlined, the thief may always break a glass in one of the doors. This results, of course, in an immediate entry into the automobile. The thief may then roll down the window, clean up the wreckage, and leave slight, if any, trace that the automobile has been opened in an irregular manner. Frequently, however, there are a few jagged pieces of glass visible at the top of the door, indicating to an informed person the possibility that the car has been stolen.

There have been cases where thieves, who have been unable to enter a car and drive it off under its own power, have had it towed away. There are instances where moving vans have been used for this purpose, the automobile being pushed into the van

and carried off. In the final analysis it would seem that any automobile can be stolen if the thief has sufficient opportunity and incentive to do so.

Upon entering the car the immediate problem of any thief is to start the automobile. The use of ignition jumpers and "hot boxes" for wiring around an ignition system is well known. These jumpers are sold by most automobile parts dealers, have a legitimate use to the garage owner in the starting of stalled cars, and are therefore not difficult for the thief to obtain. For those cars having steering post locks, the thief is confronted with the problem of breaking or springing his lock, provided he does not use a tow truck to remove it. Steering post locks may sometimes be broken by cramping the wheel sharply and having a confederate drive into the rear of the automobile intended to be stolen. This will sometimes result in sufficient damage to the lock to enable it to be driven away. Cases have likewise arisen where thieves have been able to warp a steering post lock by jerking the driver's wheel sharply from left to right.

PROBLEMS CONFRONTING A THIEF IN THE SALE OF A STOLEN CAR

(A) *Car Bearing Altered Numbers.* Assuming an automobile has in fact been stolen, the first problem of the professional thief is to dispose of it. In those states having a certificate of title law, it is essential that a certificate of title be secured. We will assume, in the first instance, that the thief has altered the numbers on the car he has stolen and is now in a position to sell it providing he can secure the necessary indicia of ownership. To make this sale he may do one of several things. He may secure a forged bill of sale or a fictitious bill of sale from a non-title state, apply for a license in that non-title state, bring the evidence of ownership to a title state and apply for a certificate of title.

We have also had cases where the thief had used fictitious and forged bills of sale on local dealers in a title state, using these forged documents in applying for a certificate of title in the same state. It is likewise possible to secure a foreign title by the same procedure, the thief then using his foreign title to secure title in another state. The writer is informed that in the case of one state where there is no certificate of title law it is possible for an individual to apply to the Secretary of State and have his license plates forwarded to an address in another state without ever entering the state issuing this license. There have also been cases where,

after securing a foreign license in a state not requiring a certificate of title, thieves have sold these cars in another state such as Illinois without securing title. This, of course, is only possible with a type of purchaser not familiar with certificate of title laws.

There is another method of selling an automobile not generally known or frequently used by the ordinary thief. In this operation an automobile is purchased from an authorized motor car agency, a small down payment is made, and the car financed for the balance of the purchase price. After possession of the car has been obtained, another automobile of the same make, year, model, and coloring is stolen and the numbers on the stolen car are altered to agree with the numbers on the original car. Two cars bearing the same motor and serial numbers are now in the possession of the same person. The purchased car bearing the original motor and serial numbers is then hidden and the purchaser thief fails to make his payments to the finance company, permitting the finance company to repossess the stolen automobile. This transaction results in what is practically a sale of the stolen car to a finance company, which in turn disposes of it to an innocent purchaser. Thus the finance company unwittingly becomes a comparatively safe outlet for this type of professional operator. This method of operation is advantageous to the thief for the reason that a tracing of titles will show title to the thief from the original dealer, and from the thief to the finance company and subsequent purchaser. Therefore, in cases where a car has been traced for title and it is found that the automobile has at one time been repossessed, particular attention should be paid to the motor and serial numbers on this car to determine whether or not they have been altered.

Assuming that apparent proof of ownership has been acquired but that the car has not yet been sold, purchaser outlets must then be acquired. If cars are being handled on a quantity basis, it is frequently impossible or very difficult to locate sufficient innocent purchasers to dispose of the quantity of cars being handled. From the thief's standpoint it is far better to have some established dealer outlet to dispose of his product. Frequently these dealer outlets are established by a thief taking a stolen car to a legitimate dealer and selling it as a bona fide car. After sufficient time has elapsed to permit the dealer to in turn sell the stolen car to an innocent purchaser, the thief may return, disclose the entire story to the dealer, threaten him with disclosure and unfavorable publi-

city, and in this manner convince the dealer that it would be advisable to continue handling stolen cars.

(B) *Cars Bearing Original Numbers.* While we have been discussing cases where thieves have sold automobiles bearing altered numbers, somewhat similar situations arise where the automobile does not bear altered numbers. A car may be stolen and sold without any attempt being made to disguise the original ownership. Ordinarily such a type of theft and sale does not give a great deal of trouble. However, a car may be sold bearing original motor and serial numbers, and yet, except for the motor block and serial plate, it is stolen property—in fact, a rebuilt automobile. The manner of this operation is as follows:

The purchaser of a new car from an authorized dealer has a serious accident with his automobile as a result of which it is found uneconomical to repair the wreckage. This salvage may then be traded to a new car dealer on the purchase of another automobile, or sold direct to a junk yard or auto rebuilder. It is such wrecks that furnish the original motor block and serial plates for the final apparently legitimate rebuilt car. A thief, finding such salvage, purchases the block and plates, acquiring a certificate of title or other proof of ownership, steals another car of the same make, year and model, and replaces the stolen motor block and serial plate with the parts from the legitimate but wrecked automobile. With this rebuilt car as it stands completed, the thief has a motor and serial plate bearing original numbers. The remainder of the car is stolen, and may be assembled from as many as five or six different cars. With the rapid education of the automobile thief in this method of operation, the problem of rebuilt cars is assuming an important place in the automobile theft situation. It may be seen that this manner of concealing original ownership of a car will not be detected by an ordinary superficial inspection. These cars, however, can be and have been identified in the past. It is therefore of value to discuss the subject of the detection of a stolen or rebuilt car.

THE DETECTION OF A REBUILT OR STOLEN CAR

Rebuilt automobiles may be divided into two main classes: those cars bearing the original motor block and serial plate from a wrecked automobile (the balance of the car being stolen), and those cars where the entire chassis including the block and serial

plates have been stolen. In the latter instance the alteration of numbers necessary to bring about conformity with those numbers taken from the wrecked car will result in sufficient deformity of the original metal surface to enable the investigator to detect the change.

In the situation where the original block and serial plate are substituted for the stolen block and plate there is considerably more difficulty due to the fact that these numbers are in fact original and have not been altered. However, it is generally very difficult to switch several plates from car to car without bending or leaving some mark on the plate itself. It is also necessary in many cases to replace the original rivets fastening the serial plate to the legitimate car with counterfeit rivets on the stolen car. Close attention should always be paid to these rivets and when in doubt the car should be thoroughly checked and traced.

It is sometimes possible, by examining the bolts fastening a block to the chassis, to find indications that the block has at some time been out of this particular frame. An absence of road grime or grease or the appearance of new scratches on these bolts will sometimes show a replacement.

In many instances, however, a careful inspection will fail to disclose any indication that the car under observation has actually been rebuilt. As it is impractical to examine all cars as thoroughly as it is necessary to inspect the rebuilt model, it is suggested that the problem be approached in a different manner.

More satisfactory results may be obtained by the investigator if he first determines that the car he is to inspect has been rebuilt. This information may be secured by a careful periodical check on known purchasers or sellers of wrecked cars and motor blocks. It is possible by this procedure to secure motor and serial numbers on cars wrecked beyond repair and by later investigation through dealers or purchasers determine if the block has been placed in a legitimate or questionable car. In many instances information will be obtained by the investigator showing the purchase by one or more private individuals of sufficient quantities of blocks to warrant his inspection of the cars in question. Locating the dealer or outlet will thus furnish preliminary information from which can be made a subsequent careful inspection of a selected group of rebuilt wrecks.

Before any motor or serial number is checked or examined, it should first be thoroughly cleaned. In this connection the use

of gasoline for the removal of any old grime or grease is recommended. After this has been removed it may frequently become necessary to clean out individual numbers with a sharp pointed instrument, taking care not to damage the surface of the surrounding metal. This applies, of course, to those milled surfaces bearing no paint. In the event the metal surface of a motor number has been painted it is essential that this paint also be removed. To do this, use a paint thinner, or, in the event this is not available, ordinary varnish or paint remover. After all paint or grease has been removed, and after the individual numbers have been cleaned, it is then possible to carefully inspect the surface of the metal for indications of grinding or filing.

Individual numbers should also be examined for the purpose of determining if they have been altered. The use of emery cloth, screw drivers or other sharp instruments for the purpose of removing grime or paint is inadvisable for the reason that such usage quickly results in the destruction of surface metal, making it difficult to later determine if the surface has in fact been ground or filed.

A word of caution: In securing motor numbers always secure the number which is stamped on the block; that is, the number depressed below the surface. The casting or pattern number which is raised above the surface is of no value in identifying an automobile. While many serial plates will be stamped from the side on which they are examined, there are other serial plates stamped from the reverse side; for example, the Buick serial plate (Fig. 1). On all serial plates when in doubt and where it is feasible to do so, remove the plate and check the reverse section (Fig. 2). It is frequently possible to detect alterations on apparently original serial plates by checking this reverse side, and alterations not visible from the original side will frequently appear very plainly after the plate has been removed. Before removing the plate it is of course important that the rivets be checked to determine if they show any sign of having been altered or replaced.

By referring to the three popular priced cars it will be possible to indicate some of the most important items to be checked by an observer. The motor number on the Ford V-8 car appears on the top of the left frame and also on the clutch housing directly in front of the transmission. It is not stamped on the motor block itself as in the case of most other cars. Upon inspection of the Ford frame, after removal of the paint, it will be found that this section of steel has a very distinctive bluish-gray color. Likewise

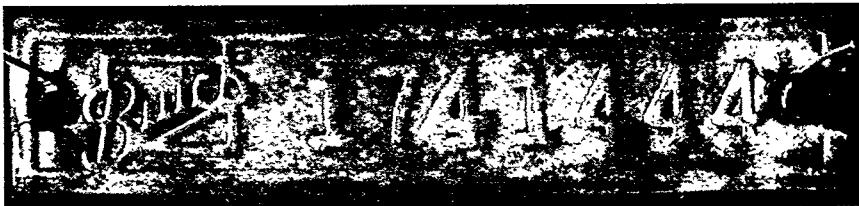


FIGURE 1

Front view of an altered Buick serial plate. Note torn edges of plate caused by removal from original car.

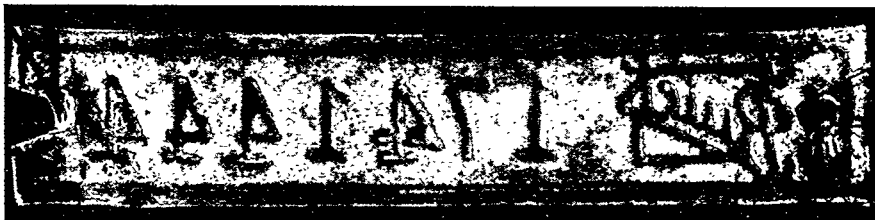


FIGURE 2

Rear view of same serial plate as in Figure 1. Note alteration on numeral 4 between the 1 and 7.



FIGURE 3

An example of a fictitious Buick serial plate, constructed from two originals which were cut and then soldered together. Attached to a car and covered with road grime and grease, this plate would probably pass a superficial inspection.

Hence the necessity for removing all surface grime before inspection.

it will be found that there may appear to be scratches extending from the outside section of the frame toward the motor. (See Figure 4.) These scratches were produced at the time the frame was manufactured at the plant. Therefore, in examining the frame to determine whether it has been ground or filed, it is advisable to check not only the surface color of the metal but also to look for these scratches. The mere absence of a scratch does not necessarily indicate that the surface of the metal has been changed, inasmuch as there may be areas from one, two, or eight inches where no scratches appear. Nevertheless, they are of assistance in the preliminary inspection of the frame itself. Any grinding or filing on this frame will show up in a lighter or brighter polished surface or may show in a cut in the metal extending below the immediate adjacent surface. If sufficient metal has been removed, the depression may be felt by simply running one's finger over a portion of the suspected metal. As to the clutch housing, this motor number, which is the same as the number appearing on the top of the frame, is stamped on a slightly raised boss which is an integral part of the clutch housing proper. This boss upon which the numbers are stamped is not riveted or welded to the rest of the clutch housing. It is one single unit, has a casting surface and when shipped from the factory does not have a milled, ground or filed surface. This casting surface is distinctive, has a pebbled appearance and extends over the entire face of the clutch housing. If a particular boss is in question it is advisable to clean off another portion of the clutch housing, comparing the metal on the boss to this other section of housing.

As previously stated, a Ford motor block assembled in a new car does not bear a motor number. However, in Illinois, where a car has had a rebuilt motor block installed, this reconditioned block will have the letters FEV stamped in the upper left hand corner of the block directly in front and to the left of the carburetor. This particular surface is a milled surface, shows definite milling marks, and any attempt to remove or alter the numbers can be detected by checking surrounding surface metal. This FEV number on reconditioned blocks is assigned to the Ford Motor Company by the Secretary of State's office at Springfield, Illinois.

While on the subject of reconditioned blocks it might also be advisable to discuss briefly the question of S.O.S. numbers. An investigator may have occasion to inspect an automobile bearing an S.O.S. number and in such case will need some information on this point. Wherever a car has been recovered bearing a fictitious motor

number, the original motor number being unknown, it is a practice in certain states to request the Secretary of State to assign a number to that recovered car. In such a case the fictitious numbers have a small chisel mark drawn through them and then the letters S.O.S. are stamped on the block or frame, followed by the assigned number and state abbreviation (such as "Ill." for Illinois). The S.O.S. means Secretary of State. Cars bearing S.O.S. numbers merit careful attention; while they may be legitimate they nevertheless should be investigated to determine if the claim of title is in order.

The motor number on the Plymouth car appears on a milled surface at the upper left hand corner of the block. This boss is raised slightly above the surrounding surface and is an integral part of the block itself. The surface on the Plymouth car varies considerably from car to car but is a milled surface and should not show file or emery marks. The serial number of this car appears in the body on the inside of the right front pillar post. In order to obtain the serial number it is necessary to open the right front door, the plate being found to be riveted to the body proper. When inspecting the car it is important to check these rivets to determine if they show any signs of having been removed, at any time, or if the plate itself shows torn parts at the rivet locations. If the plate is warped or curved this may be an indication of irregularity. These rivets on the Plymouth car are of a distinctive color, have a rounded and not a hammered head. Inasmuch as they are difficult of reproduction in a case, for example, where a serial plate has been removed from a wrecked car, the checking of the rivet heads will frequently give information that the car has been rebuilt.

On the Chevrolet car the motor number appears on the right side of the block on a slightly raised boss surface, directly to the rear of the fuel pump. This surface, as in the case of the Plymouth car, is milled and has a distinctive gray color. The surface of the metal is uniform and shows no indication of any filing or grinding marks. Therefore, if an automobile has marks going from the top to the bottom or cross-wise on this boss, this is an indication that the block has probably been ground or filed. Some thieves have reproduced the original Chevrolet milled surface by using a fine mill file and a valve grinding compound. In the hands of an expert number changer it is frequently possible by this method to reproduce the original surface. For this reason it is always advisable in the case of a Chevrolet car to check the automobile carefully

for the purpose of tracing or for obtaining the assembly record. As a further aid in determining if the motor numbers have, at any time, been altered, a straight edged piece of metal may be held against the face of the boss and a light shown from the under side. Inasmuch as any filing will cause a removal of some metal with a resultant irregular surface, the light should disclose any cuts or depressions.

The serial plate on the Chevrolet appears on the right floor of the car and is attached by rivets of a distinctive type, the plate being in one piece. Some thieves have cut off the bottom of this Chevrolet serial plate, the part upon which the numbers are stamped, replacing the removed section with a manufactured section upon which the fictitious numbers have then been restamped. This may be detected readily at the time the car is inspected inasmuch as the two different parts of the plate will be plainly visible.

The numbers stamped on this plate contain information which every automobile investigator should know. Assume a Chevrolet car is examined and found to have serial 21DA06-42314. The first two numbers, 21, indicate the plant at which this car was assembled; the letters "DA" the year it was built and the numbers, 06, the month assembly; and the numbers 42314 are the distinguishing numbers of this particular car.

In this particular case the DA indicate a 1934 car, while 06 shows a June assembly. A January assembly would have the numerals. 01. The DA also indicates that the car is a Master Chevrolet. The standard model would have the letters DC. This information is of value for a number of reasons. For example, should the investigator seize a thief with a car in his possession bearing Serial 21DA06-42314, and, after questioning him is informed by the subject driving the automobile that this car was purchased as a new automobile in March of 1934, it becomes quite apparent that this story is not true, because the car in question, assuming it to bear original numbers, was not produced until June of the same year. If the person driving the car is telling the truth, then the serial number appearing on the car is fictitious, and the automobile should be checked.

The 1935 Chevrolet bears the letters EA for the Master DeLuxe and for the Standard EC. The 1936 Chevrolet bears the letters FA for the Master DeLuxe with knee action, FD for the car without knee action, and FC for the Standard. The 1937 Chevrolet bears the letters GA for the Master DeLuxe with knee action and GB

for the Master without knee action. The 1938 model bears the letters HA for the Master DeLuxe with knee action and HB for the DeLuxe without knee action.

Generally speaking, the numbers appearing on the Ford, Chevrolet, or Plymouth car are fairly uniform in depth. However, cases will be found where these numbers vary slightly in depth and in spacing. This is due to the fact that in many instances the numbers have been stamped manually and it is therefore impossible to secure machine uniformity.

In general, and assuming that the entire surface of the metal has not been ground and that therefore the numbers are not entirely fictitious, the next possibility to consider is—have individual numbers been changed or restamped. It is of course always possible for a thief to select one or two numbers in a series of numerals, punch out the original numbers, restamping the original number with a fictitious number. It is likewise possible for a thief to re-stamp a 4 over a 1; an 8 over a 3 where the 3 is a round top 3; a 5 over a 3; to change a 6 to an 8, or a 9 to an 8, or an 0 to an 8. In such a case it is of course not necessary to file or grind the surface and the only equipment needed is a small punch for the purpose of removing traces of the original numbers.

Figure 4 is an example of a fictitious number which has at the

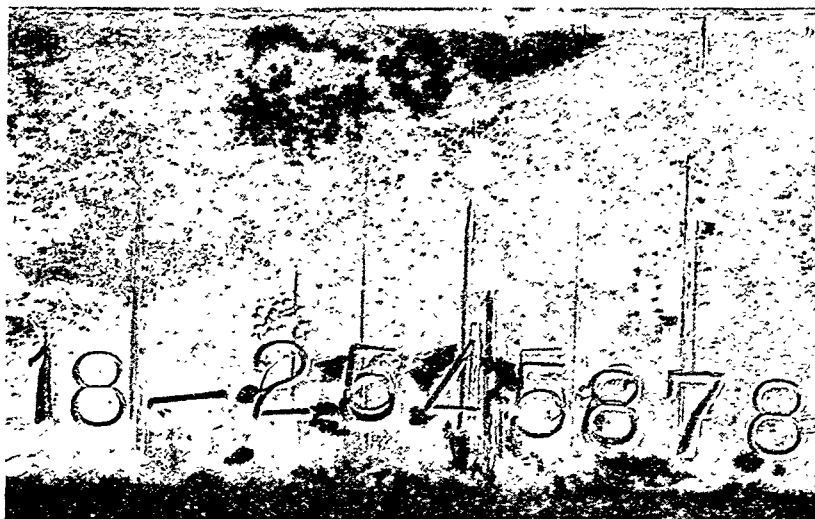


FIGURE 4

Example of an altered fictitious number on a V-8 Ford Frame.

same time been altered. An inspection of the background of the metal will show no indication of grinding. However, there are a number of irregularities conclusively showing that the numbers illustrated were not produced at the factory, and further showing that these fictitious numbers have themselves been altered: (1) These numbers should be preceded and followed by a small star, present on all Ford cars; (2) The numerals used are not V8 Ford dies, the original genuine number 1 having a flat rather than a slanting top; (3) The dash separating the prefix 18 from the number 2545878 is a number 1 and not a Ford dash—the die of the latter being distinguished by having an arrow at both the front and back section of the straight line such as \leftrightarrow . It will also be noted that the number 2 of the figure 1 has been restamped twice, the top portion of one 2 being removed with a center punch. Inspection of the first 5 at the upper right hand corner shows more center punch marks indicating a possible 3 as the first number stamped. The second 5 has been stamped twice, the die shifting on the second impression. The second figure 8 shows punch marks at the left middle and top right section, indicating the presence of a 6 under the 8.

The person responsible for this numbering may have been under the impression that by grinding off the original numbers on this Ford frame and restamping a new set to the left of the original location it would be possible to prevent ultimate identification. The importance of knowing the characteristics of original numbering dies used by the automobile manufacturer as well as of having a working knowledge of the more common methods used in altering numbers is thus clearly indicated.

To become familiar with the various dies used—and practically every make of car has a distinctive type—it is advisable to inspect yearly models of new cars as they are released from the factory. Permanent impressions, for subsequent ready reference of the investigator may be easily made by placing a plain sheet of white paper flat against the motor number inspected. An ordinary lead pencil drawn back and forth across the face of this sheet of paper will leave a plain imprint of the number stamped into the metal.

In the identification of a stolen car, a police officer has several avenues of approach. Assuming the car bears altered numbers, the first and most obvious problem is to secure the original numbers. Generally speaking, the use of heat, in other words an acetylene torch, is most satisfactory for bringing out numbers on a cast iron

block. This particular method of operation has the advantage of being rapid and accurate but has the disadvantage of being dangerous in the hands of an unskilled operator. Even when applied skillfully there is the ever present danger of cracking the block when too much heat is applied in one location, or when the block is overheated. For this reason the use of an etching re-agent in bringing out numbers on a cast iron block is recommended.¹ The application of this re-agent or the processing of a block requires a longer period of time and in many instances may not bring out the numbers so distinctly or so satisfactorily as in the case where heat is used. For this reason, when applying the re-agent to a block, or for that matter to any other section of metal, it is important that the operator have adequate light, preferably natural light, so that he may be able to see the numbers when they have been restored. We have had cases where numbers restored in a laboratory were not visible under artificial light but could be seen when viewed in natural sunlight.



FIGURE 5

Numbers restored on Chevrolet block by the use of heat,
after their removal with an emory wheel.

¹ From various sources the formula is obtainable by law enforcement agencies. The writer will be pleased to supply the information upon request, but for various reasons it is deemed unwise to publish it.

Figure 5 is a typical example of the restoration of numbers on a Chevrolet motor block by the use of heat. On this particular car the original numbers have been ground off with an emery wheel. The numbers appearing on the photograph as gray lines are sometimes difficult to see, and lighting must generally be directed to the block from an angle before complete visibility can be secured. Needless to say no impressions were visible before the application of the heat.

Ordinarily the use of heat on steel is unsatisfactory. In one case where an attempt was made to restore the numbers on a section of Chrysler frame by the use of an acetylene torch, only three numbers could be ascertained, but after the heat experiment had been completed acid was applied to the same section of frame and the entire set of six numbers became visible. The etching re-agent used on aluminum, brass, or steel is, on the whole, highly successful. Of course, success in restoration on these metals will, to a certain extent, depend upon the procedure followed by the thief in altering the numbers.

Assuming, however, that for some reason the original numbers cannot be restored by the use of heat or re-agent, it is still possible to identify the automobile in question by the use of personal marks. These marks are generally present on every automobile stolen and are extremely valuable. Personal marks, such as dents and scratches, burns in the upholstery, or special motor repair work have in the past been of great help in identifying questionable cars.

The tracing of suspicious cars is of great assistance in the identification of a stolen car. In tracing, the factory manufacturing the car is in the first instance contacted for the purpose of securing the date of shipment and the name of the dealer to whom consigned. From this dealer information is secured as to the name of the retail purchaser to whom sold, the title being traced from this retail purchaser to subsequent purchasers until the chain of title is found to be in order or the car proved to be stolen. Likewise in cases where an automobile is under investigation and for some reason or other it is impractical to thoroughly inspect the car, the tracing of this automobile will be of material assistance. In the event tracing determines that the original car is still in the possession of some individual, a prima facie case has been established to the effect that the car under observation bears altered numbers.

All automobiles manufactured in the United States bear either motor or serial numbers; or motor and serial numbers. Except in

the case of the Ford car the motor number is stamped directly on the motor block. The serial number is generally stamped in a small metal plate, later riveted to the body or frame, or it may be stamped directly into the body or frame. The exact location of these numbers vary from car to car. Inasmuch as the motor number is an entirely different number from that used on the serial plate, either set of figures will ordinarily enable the inspector to identify the car.

Generally speaking, the identification of accessories appearing on cars is a somewhat difficult proposition, due to the fact that they are for the most part not numbered. There are a few exceptions. Some radiator caps, all tires, and all radios bear serial numbers. After these numbers have been secured by an inspection of the automobile under observation it is frequently impossible to effect identification for the reason that many owners fail to jot down these accessory numbers and as a result are unable to furnish the interested Police Department with the necessary data when the car is reported stolen.

At the present time the Automobile Protective & Information Bureau is listing records on both tires, radios, and other numbered accessories. This information, of course, is available to any duly constituted law enforcement agency. It is therefore practical to always check accessories on any inspected car. While no report of theft may be on file it is sometimes possible to trace ownership on these suspected parts.

At the time any car is inspected the investigator should secure not only the motor and serial numbers but also the license number. Frequently thieves have made the mistake of applying for licenses in their own name, the application bearing, of course, the fictitious motor number. However, any information at all giving the police officer assistance in locating the subject responsible for the theft of a car is of great value, and attention to what might seem a trivial detail frequently results in not only the identification of the car in question but also in the solving of other crimes. Cases are recorded where the identification of stolen cars has resulted in the solution of kidnapping and murder cases.

In making arrests of individuals either entering cars which they do not own or driving an automobile belonging to some other person, the investigator hears a great variety of alibis. In the case of a man tampering with an automobile, probably the most frequent excuse offered is that the examiner was lifting the hood

merely to examine the car; or that he made a mistake, or that the car was loaned to him by a friend; or that he is an innocent purchaser for value of the automobile. The more clever thief will attempt to minimize or reduce the charge placed against him by alleging that he is not guilty of a larceny in that he did not attempt to deprive the owner of it permanently but merely intended to use the car for a joy-ride or for transportation purposes. The punishment in the latter cases is of course considerably less than in the case of a larceny.

Where two individuals are apprehended in a stolen car, one will generally attempt to throw the blame for the theft upon the other individual by alleging ignorance of the theft and complete innocence in the operation of the vehicle. Frequently these alibis may be destroyed by questioning of the suspects separately and by examination of the car to see if it shows apparent damage to the ignition system, to the door locks, or to the window. It is of course always advisable to check suspects for keys or other equipment used by thieves in the theft of automobiles.

About a year and a half ago the Chief of Police in a suburban town had occasion to arrest and question a suspected automobile thief. This thief had only been in custody for two hours when a call was received from a professional bondsman relative to the amount of bond required to release this arrested subject. The fact that this arrest had been made was unknown to anyone except the Chief of Police, no one having left the office of the Chief during the period of questioning. We naturally wondered how it was possible for the fact of the arrest to be made known. By subsequent questioning it developed that this prisoner left a complete itinerary with his mother of every place he intended to visit, before he started on his day's work. The prisoner was required to call his mother every two hours and in the event such call was not made his mother could easily, by a process of elimination, determine just where he was being detained. It seems that this system of leaving an itinerary of places visited or places to visit is often used by thieves generally in order to prevent prolonged questioning.

THE FUNCTION OF THE AUTOMOBILE PROTECTIVE & INFORMATION BUREAU

Some eighteen years ago it was realized that a central clearing house was needed for the purpose of keeping national theft records on stolen cars. To fill that need the Automobile Protective & In-

formation Bureau was formed and given jurisdiction over eighteen states in the Middlewest. The Automobile Protective & Information Bureau maintains nation-wide theft records on stolen cars received from member insurance companies and from police departments, at the present time having over 850,000 cards on file from every state in the Union. Some automobiles bear a repeated motor or serial number as the secret number. In such a case there may be other numbers on the car that are entirely different from the repeated secret motor or serial numbers. All of these numbers are, of course, valuable in the identification of a car, and are filed by the Bureau at the time a report of theft is taken. On those cars where a component part number is a separate and distinct number entirely, having no direct apparent relation or connection to the motor or serial number, the Bureau has information available either as to the motor or serial number reported stolen or can secure the specific assembly record. The Bureau maintains a Branch Office in Detroit, as a point of contact with the factories for the purpose of assisting law enforcement officials in the identification and tracing of questionable cars. The Chicago Office, as the headquarters of the Bureau, has direct teletype connections with the Detroit office,, which in turn has direct contact with the various motor car manufacturers. The Bureau also has teletype connections with all of its division offices with motor car manufacturers located outside of Detroit, as well as at Detroit, and with some Secretaries of State, State Police, and State Highway Patrols. The Bureau is able, therefore, to furnish prompt information at any time on the shipping destination or assembly record of a car under observation. The Bureau has a staff of ten special agents maintaining their respective headquarters at Chicago, Detroit, St. Paul, Denver, Indianapolis, St. Louis, Oklahoma City, Columbus and Kansas City. These men are at the service of law enforcement agencies without charge.²

² The Chicago office is at 166 W. Van Buren St., Chicago, Ill.